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NEW ENGLAND BRANCH OF THE AMERICAN UROLOGICAL ASSOCIATION

CARCINOMA OF THE PROSTATE AND BLADDER*

BY B. S. BARRINGER, M.D., F.A.C.S.

1. CARCINOMA OF THE PROSTATE:

TO illustrate the futility of treatment of most cases of carcinoma of the prostate which come to us at Memorial Hospital I have classified 202 consecutive cases as to the duration of life after examination and treatment. These 202 cases were of all kinds, cases about to die; many cases post-operative; 4 cases with one or both legs swollen from the pressure exerted by carcinomatous glands on the common iliac vein; some few cases with very extensive bone metastases; many cases in which there was secondary carcinoma of the bladder; some cases showing carcinomatous signal nodes in the left supra-clavicular space; cases with large suprapubic tumors, these generally occurring after an attempt at prostectatomy. Of these 202 cases, 18 were not followed to termination.

There were alive over 3 years, 15 cases.

Of these 15 cases, 13 were classified as extensive—that is, the carcinoma was well beyond the prostate, and 2 classified as small, the carcinoma apparently being confined to the prostate. Of these 15, there was a pathological specimen in 10, and no specimen in 5.

Living over 4 years, 6 cases. 5 extensive and 1 small.

There was a pathological specimen in 2 and none in 4.

Living after 5 years, 6 cases. All extensive carcinoma proved by specimen, 2, not proved by specimen, 4.

Living after 7 years, 3 cases. 2 extensive and 1 small. Proved by specimen, 2, not proved, 1.

Therefore there were but 30 cases (15%) that had any reasonable length of life after first examination and only a moderately small number of these extensive prostatic carcinoma were benefited by any treatment. In those cases with one or both legs swollen, from pressure of the carcinomatous glands, we have in most cases by the application of radium pack, caused a sufficient reduction of the swelling—complete reduction in some cases—to enable the patient to go in comfort the rest of his life, which is generally a question of months. In many cases we have stopped the hematuria. In certain cases we have absolutely controlled the pain. One patient, an old gentleman of 80 odd years, has been enabled to live in comfort for over three years after he was refused any treatment whatsoever at another clinic.

One patient with multiple bone metastases has, under deep X-ray treatment, gained in weight radiation of his prostate has caused extraordinary regression of the tumor, and his radio-sensitive carcinoma is being controlled. Another patient with a large carcinoma of the prostate was operated upon, and a suprapubic tumor appeared shortly afterward. Two and a half years later after deep X-ray treatment he is reported to have gained 60 lbs., and his tumor has largely disappeared.

There is one class of patients in which much may be accomplished—that is, the patients with advanced prostatic carcinoma, and enough retention of urine to cause symptoms.

I have always tried to stress that the patient with extensive carcinoma of the prostate should never be subjected to major surgical operations, if it is possible to cope with the disease by any other means. It has been my habit to do a modified punch operation on such patients. This operation has been a minor one, and can be done under local anesthesia, but is generally done under a low spinal. I have classified 24 such operations as to result and duration of life after operation. There was one death from bleeding, post-operative. The duration of life after operation was as follows:

13 lived less than 1 year.
3 more than 1 year.
3 more than 2 years.
4 more than 3 years, and 1 unknown.

The fact that 13 lived less than 1 year emphasizes the point that I wish to make, on the futility of doing major operations as routine upon this class of patients.

RESULTS OF PUNCH OPERATION

Results are divided into two classes. Those having complete retention, and those having partial retention. If they are classified as well, the retention has been entirely relieved. If they are classified as improved, the retention

*Read at the 50th meeting and the 20th annual meeting held at the Harvard Club of Boston, November 8, 1927.

is not entirely relieved, but the patient is enabled to get along without another operation.

Complete retention, 9 cases.
Well 2, improved 5, unimproved 1, unknown 1,
Another operation necessary 1, cystotomy.
Partial retention, 15 cases.
Well 5, improved 8, unimproved 2.

Pathological specimens obtained at operation showed carcinoma in 20 cases; no carcinoma in 3; not done in 1.

In other words, the retention is generally caused by the carcinomatous invasion but there may be inflammatory hypertrophy, or contracture of the bladder neck, both non-carcinomatous causing the retention.

In the light of these statistics, what should our future activities be in attempting to control this extremely serious disease? I have elsewhere indicated that I believe between 5 and 10% of prostatic carcinoma can be sufficiently controlled by radium as to lead us to think that the patient is cured. We have had one autopsy specimen, a case proved carcinomatous by pathological examination, in which we could find no carcinoma.

The steps in the future should I believe be along the following lines: Every man 55 years or older should have a rectal examination with the same regularity that he has his blood pressure, heart, urine, etc., examined. We have been making an attempt, in the past two years, to find some of the factors causing prostatic carcinoma. Dr. Ewing believes that the retention of irritating secretions and inflammatory changes play some part in both prostatic and breast carcinoma. At the Memorial Hospital they have been able to produce mammary carcinoma. At the Memorial Hospital they have been able to produce mammary carcinoma in animals, and Doctors Adair and Bagg believe that they have considerable evidence that retention and stagnation of secretions play a causative part.

We have attempted to reproduce their operations on prostates, but have not yet been able to produce a prostatic carcinoma in animals. If we could get an idea of the cause, then naturally we could attempt to prevent prostatic carcinoma from occurring.

Certain prostatic carcinoma, 5% or more, are radio-sensitive—that is to say, they are profoundly affected by radiation either by means of radium, or X-ray. If the patient is in excellent condition, and has lost no weight, he should have one course of deep X-ray therapy to determine if his carcinoma is radio-sensitive. If it is, then there should be determined effort to definitely control the disease, no matter how bulky the carcinoma may appear to be. If the carcinomas are small, reasonably confined to the prostate, those of us who believe in radium should attempt to destroy that carcinoma by radiation. Those who believe in operation will resort to operative removal. But I think we have enough evidence, both from the pathological specimens and the clinical findings, to show that operation very rarely removes all of the prostatic carcinoma. Therefore I think there is little question in any of our minds that operation should be followed by persistent radiation of the prostatic bed, and the lymphatics around the seminal vesicles.

For those cases having advanced carcinoma and urinary retention, some minor procedure should be done to overcome retention—minor, because at least ½ of these patients will not live the year out.

CARCINOMA OF THE BLADDER

Turning to bladder carcinoma, we see some chance to become optimistic. We at least have a better idea of many of the problems than we had ten to fifteen years ago.

As to the end results, I have tabulated the end results of cases which have had an opportunity to go five years since their radiation—in other words, all cases up to the end of 1922.

These are divided as accurately as possible into papillary and infiltrating carcinoma. In both the papillary and infiltrating type there have been included some cases in which there are either no pathological examination, or the pathological examination did not—to my mind, reveal the true diagnosis.

In the majority of the cases, however, the diagnosis has been borne out by the pathological examination.

PAPILLARY CARCINOMA

20 cases reported. 12 of these are proved by pathological examination. 15 (75%) are cancer free. Of these 20 cases, 1 has been lost sight of (included in deaths).

2 are well 2 to 3 years, then lost sight of.
2 are well 3 to 4 years,
1 is well 4 to 5 years,
5 are well 5 to 6 years,
2 are well 6 to 7 years,
2 are well 10 years,
1 is well 11 years.

Of the deaths:

1 died post operative from diabetic coma,
2 died at the end of 2 and 3 years from carcinoma,
1 died at the end of 10 years, possibly from carcinoma.

INFILTRATING CARCINOMA

51 cases.

Of these 51 cases, the pathological report agreed with the diagnosis in 23 cases. In 16 cases, the diagnosis was carcinoma, with no signs of infiltration, and in 12 cases there was no pathological examination, or the pathological diagnosis was papilloma.

18 cases (35%) are carcinoma free as follows:

5 cases are well in which the pathological examination showed infiltrating carcinoma.

2 for 3 to 4 years,
1 for 5 to 6 years,
2 for 6 to 7 years.

8 cases are well in which the pathological diagnosis was carcinoma.

1 for 4 to 5 years,
5 for 5 to 6 years,
1 for 6 to 7 years,
1 for 11 years.

5 cases are well, with no pathological diagnosis.

2 for 3 to 4 years,
1 for 4 to 5 years,
1 for 5 to 6 years,
1 for 11 years.

In one of the above cases a small papilloma occurred at the end of 5 years; this is under control. The deaths of patients who were free of carcinoma are as follows:

2 at the end of 4 years, 1 of apoplexy, 1 of cardio-nephritis.
1 at the end of 5 years of pneumonia.
2 at the end of 6 years, 1 of kidney disease, 1 of apoplexy.

Operative deaths:

1 from uremia.

Deaths from carcinoma, 32 cases:

1 patient was lost track of and is included in the first year deaths,
16 died in the first year of carcinoma,
16 died at various periods, up to 5 years from carcinoma.

To sum up, therefore, we have 20 cases of papillary carcinoma, 5 of which, or 75%, are cancer free for as long as observed, 11 having gone more than five years. 51 cases of infiltrating carcinoma, 18 of which, or 35%, are cancer free, 12 having gone more than 5 years.

In the above reported cases are included all those in which the carcinoma has been small enough to be controlled intravesically, and all cases operated upon suprapubically, and radium implanted. In this last class, no cases have been refused operation if the carcinoma was thought to be confined to the bladder. Many of the infiltrating cases have been very extensive, and most of them have involved the bladder base.

To determine the mortality of the suprapubic implantation of radium, I have tabulated the operations done up to the year 1927. These are my personal cases, as I believe that the cases done by one operator, in one way, will give a true record of what can be done.

In all, 94 suprapubic operations have been done upon 90 cases. On two of these patients I operated twice, and upon one patient, three times. The patient operated upon 3 times, is cancer free, and has gone 7 years after the first operation. The other 2 are dead. These operations are divided as follows:

Papilloma,	5 operations
Papillary carcinoma,	10 operations
Infiltrating carcinoma	79 operations.

The deaths in the hospital (operative deaths) were as follows:

Papilloma, 1 death 3 days post operative from hemorrhage (he had bled for weeks prior to the operation).

Papillary carcinoma, 1 death from diabetic coma, 3 months post operative (he had 5% sugar in his urine before operation).

Infiltrating carcinoma, 1 death from uremia, 2 weeks post-operative. (In this patient, the blood urea nitrogen was 42 mg. before operation this rose to 120 2 days before death.)

In the 94 suprapubic implantations of radium, there was a mortality of slightly over 3%. When we compare this with the mortality of between 10 and 20% of the operative removal of carcinoma of the bladder, we realize that even if radium removal were not more effective than operative removal, we would, by using the former, spare a goodly number of lives.

There is another point: Several surgeons who have a low operative mortality when excising bladder tumors, have had a considerably higher mortality when radium has been implanted suprapubically. The reason for this is, I believe, that these bladders are mobilized with an idea of excising a tumor. Then when this is found to be impossible, radium is implanted. The length of such an operation, and the mobilization of the bladder are, I believe, the causes for the high mortality.

There are several points in the performance of the suprapubic implantation of radium that merit discussion:

1. The contents of the bladder, often badly infected, should not be spilled into the open wound. The best way to accomplish this is to empty the bladder by means of an aspirating device, padding the wound well, and removing any soiled pads after the bladder is empty.

2. Cautery removal of protruding parts of the tumor accomplishes two objects. Bleeding is minimized, and infection controlled. This last point is valuable when the tumor is of the sloughy, badly infected type. The cautery used should be the quick heating electric type.

3. If the tumor is at all large, and if bleeding has been an important symptom, or if the bladder is badly infected, I object to sewing up the bladder without drainage. Instead, a rubber drainage tube is placed in the bladder, and removed when bleeding has stopped or infection is controlled—generally in several days. The bladder is not sewed to the abdominal wound, but a silkworm stitch is placed in the

lower part of the bladder, so that it can be lifted up in case of need.

4. Gold tubes of radium, of a strength of about 2 mc. are implanted 1½ cm. apart. throughout the base of the growth. This is the radium method of election, and rarely is any other form of radium used.

5. We have a large and growing series in which bladder cancers have been controlled by the cystoscopic application of radium. This should not be attempted by one not experienced in the use of radium, and if there is any reason for doubt as to the control of a tumor, the suprapubic operation should be resorted to.

DISADVANTAGES OF RADIUM

Gold tubes can cause just as much slough as the older glass seeds, although they generally do not. The slough generally occurs when radium seeds are applied to badly infected tumors, and may take a long time to pass off. It may become incrusted with phosphates. The gold seeds, as a whole, cause a great deal less irritation than glass seeds, but if 20 or more are implanted in the base of the bladder, rectal irritation may be considerable, and may last several weeks.

DISCUSSION

DR. A. L. CHUTE, Boston: I have been very much interested in Dr. Barringer's paper, especially in noting how not only has the enthusiasm of the operative group been toned down but how the radium group also has become much less enthusiastic than it was a few years ago as to its results, particularly in the treatment of malignant disease of the bladder and prostate. To me it is most difficult to determine what is the best treatment for cancer of the bladder with the exception of those small papillary growths that are so satisfactorily treated by the high frequency current and some of the localized growths that permit a wide resection of the tumor.

I saw today the first patient who I thought had been helped definitely by the use of deep x-ray. This woman came to my office in 1925, at which time she had a ragged growth on one side of her bladder and I believed I could feel through the vagina a definite thickening of the bladder base. I advised her to submit to operation but instead she consulted Dr. Samuel Ellsworth who gave her treatment with deep xrays. She had had no treatment of any sort for a year and a half when she came in today. I looked into her bladder and found little papules and cysts scattered pretty well over the bladder base. Where the big tumor mass had been there was an area of scar tissue. In that area of scar tissue there was a little point which I think is the constricted ureter. This shutting off of a ureter is, I believe, the weak point in all our treatment of bladder growths by radiation as well as by surgery; many of these patients die of uremia because their ureters are shut off, as proven by autopsy findings.

This woman had, I should judge from what I saw, two years ago, an infiltrating carcinoma of the bladder. As there was no microscopic specimen, the diagnosis was purely clinical. Today it looks as if the growth had been changed to a mass of scar tissue, in which the right ureter is imbedded with the result that the right kidney is thrown out functionally.

There are many small, papillomatous tumors of the bladder that I think we will all concede are best treated by fulguration through a cystoscope: there are others so extensive that we can do little more than to provide drainage as a means of palliation. In the operable cases there are two essentials that we must follow if we are to have success: we must remove all the diseased tissue and keep the ureters patent. I believe we can be most sure to accomplish this by means of operative surgery; fulguration and radium may destroy the diseased tissues but they take no account of the patency of the ureters. In some instances the mutilation that accompanies the operative removal of all diseased tissue is so great that we hesitate to employ it until the disease has gone beyond the bladder, even though as a whole, these cases do not metastasize early. To preserve the patency of the ureters will mean in many instances implanting them in the intestines or the skin.

In closing I wish to mention briefly a case of carcinoma of the prostate. Last New Year's day I saw a man on whom I had operated for carcinoma of the prostate six years ago. When I saw him he had a clear urine and no frequency or urinary symptoms. I could feel absolutely nothing in the way of infiltration of the prostatic region, but he had numerous foci of carcinoma of the bones. If I interpret this correctly, I had removed all the local disease but not before metastasis had taken place. In a way this case is encouraging in that it suggests that one may be able to remove all the carcinomatous tissue. No radium was used in this patient because the septum between the bladder and rectum was so thin I felt sure that I would get sloughing if I used it.

DR. GEORGE G. SMITH, Boston: I enjoyed hearing Dr. Barringer's paper very much but I wish he would give us more information about his method of treatment. I presume he uses gold implants and leaves them there—Is that right?

DR. BARRINGER: No.

DR. G. G. SMITH: I think we have a good deal of ground to cover in discovering the malignancy of these tumors. For instance, a carcinoma of the prostate will behave in one way in one case and an apparently similar carcinoma in another case will behave entirely differently.

I would like once more to call to your attention in this connection the Bureau which has

been established by the American Urological Association for the study of specimens of bladder carcinoma. You probably all know that this Bureau is located in the Army Medical School in Washington and if specimens are sent there with a history—and you can obtain blank forms from the curator by writing there—these specimens will be sent to three pathologists, and the opinion of each will be given as to the grade of malignancy; these records will be kept on file in the Museum, and in the future we may be able to know whether there is anything in the microscopic estimate of the malignancy of the tumor. My limited experience so far has led me to believe there is something in it.

In regard to the treatment of carcinoma of the prostate by the implantation of small gold seeds, I have tried that in a few cases in the past year or so; and two practical considerations have been brought to my attention. One is that when the patient is x-rayed after the seeds are implanted it is shocking to see where the seeds are. You will find two seeds lying side by side and then a long gap before you come to another one even though you have placed the seeds with your best ability.

The other is that even after a mild irradiation of the prostate by gold seeds there is a marked reaction and a local edema which makes the patient uncomfortable. All his bladder symptoms are increased and his difficulty of urination is increased, and this condition persists for at least six weeks and perhaps longer. I feel if one is going to treat carcinomas of the prostate in this way, probably the best thing to do is to open the bladder and under the guidance of the eye put the seeds in the prostate and then leave a tube in the bladder for two or three months to give the radium reaction time to clear up entirely before you allow the patient's bladder to close.

In regard to the treatment of carcinoma of the bladder I have been pretty much converted to the efficacy of the treatment by diathermy. It seems to me it is really a beautiful method of treating these things. One can get currents of varying types as Dr. Quinby has told us. At one extreme there is the radio knife which will go through tissue with such great rapidity that it has to be handled carefully; at the other is a current which will destroy the tumors more slowly and with a more penetrating effect. It seems to me this treatment cleans the bladder up and gives a slough that heals more quickly than after radium, and the results so far have seemed to be good.

I think that in the infiltrating tumors that lie in the bladder wall and do not extend through it, the implantation of radium is a better method than diathermy because if you use diathermy, you will burn a hole in the bladder wall and this may go through and cause a burn of the iliac artery; but radium can be used better in those cases provided it is screened. I should be interested to hear how Dr. Barringer treats carcinoma of the prostate.

Dr. William C. Quinby, Boston: We surely owe Dr. Barringer our conjoint thanks for working so persistently on these cases, especially of cancer of the bladder and prostate. It is only from such intensive work by a group of men that we are going to get any idea as to what the results of any single form of treatment will be.

I feel, as Dr. Chute said, rather hopeless as to what to do in a case of cancer of the prostate. There is nothing I feel I can do except to offer palliation of any presenting symptoms. If those are severe, then something must be done, especially if they are of the obstructive type and combined with hemorrhage. In such cases I do a partial prostatectomy through the perineum with the idea of relieving the urethra and bladder outlet as far as possible. Because I have it at my command I add radium, but I don't believe my experience with radium is sufficient to tabulate or to furnish trustworthy results. It is possible, however, to prolong life in a comfortable manner by the above treatment of such patients; that is, by a perineal operation that doesn't open the urethra but that relieves the neck of the bladder, followed by the implantation of radium into what malignancy remains.

As far as cancer of the bladder is concerned, I am becoming more and more an advocate of a radical procedure if the patient is of such type as to warrant it. By "radical" I mean an entire removal of the bladder rather than a local excision. I think if one doesn't find conditions such as to warrant a cystectomy, then by all odds the best operation is one that attempts to control the growth by diathermy through the open bladder. Once in a while, however, we will find that the late result of diathermy has occluded the ureter, and as many of these growths take origin in immediate proximity to the ureter we have always this problem to face, that our ultimate result will be threatened not only by recurrence of the growth but also by the extreme likelihood of a blocked ureter. It was said early in the use of diathermy that this agent in no way interfered with the ureter. That is not true. Any agent that destroys tumor cells will inevitably cause scar, and scar will contract, so that there may be an occlusion of the ureter on that side. Therefore for definitely malignant growths of the bladder with a patient in condition to warrant it I think that the operation of the future will be a total cystectomy.

In instances of malignant papilloma not too near the ureter I think that the treatment should be by electrical coagulation or fulguration. The excision of a neoplasm near the ureter with reimplantation of this tube into the bladder has shown discouraging results so often as to make

this type of operation probably unwise in most instances.

DR. R. F. O'NEIL, Boston: I should like to add my thanks to the others to Dr. Barringer for his paper, and I admire his persistence in following this line of work, and the results he has obtained.

My personal experience with radium in Prostatic Carcinoma is too limited for me to discuss that procedure. If retention or marked obstruction is present it should be dealt with by perineal operation or suprapubic drainage.

In carcinoma of the bladder I have had better success with diathermy than with radium implantation. In one case in particular a tumor in close relation to one of the ureter openings was treated by this method by open operation. Two years later cystoscopy showed a normal bladder and a normal appearing ureter. The pathological examination in this case was carcinoma of high malignancy.

The futility of operating on many of these cases of carcinoma of the bladder is so often demonstrated by the prompt recurrence and extensive metastases. Still we must persist in removing them when possible in the hope of getting an occasional early case.

I have recently had under my care a case where an extensive and locally successful resection of the bladder had been performed, only to have the patient die one and a half years later of extensive metastases of the spine and pelvic bones.

DR. BENJAMIN S. BARRINGER, New York (closing): I am sure you have all been very gentle with me to-night. I think we are getting nearer together.

Dr. Smith asked about the treatment of prostatic carcinoma. I have always had an idea that the putting in the needles and pulling them out was the best way, as it gave the largest amount of irradiation with the least pain.

We have found by animal experiments and clinical work that this form of radiation gives a considerably wider effect than the radiation by means of gold seeds. So we give a man anesthesia and put a needle into both lobes of the prostate and needles around both vesicles, and give him several hundred millicurie hours, and then pull the needle out. Some get pain, and some not; but all in all they get less pain than with the gold seeds and they get a larger area of radiation.

Diathermy I think is simply another form of heat, perhaps a rarefied form, but nevertheless heat—and the effect is largely that obtained by a cautery.

Now the cauterization of carcinoma has been placed in the discard. Percy used to burn out carcinoma of the uterus. There are few people in the United States that do that now. I have an idea that the real therapy lies between operation and radium, and that if you are using diathermy you are puttering with your condition.

The occlusion of the ureters was an interesting thing to me. Radium doesn't occlude the ureters, but does another interesting thing. A man in whom I had cured a carcinoma of the bladder came back with one kidney that was practically destroyed, and whether the slough around the ureter had so infected the kidney as to cause destruction of it, I don't know, but the kidney was gone, and the ureter was not occluded. I have seen a case that had ureteral colic have the colic cease after radium implantations of a tumor around the ureter. I don't know that I have seen scars around the ureter occluding it after radium implantation.

About total cystectomy: I cannot get into my mental make-up that any operation that entails a mortality of 30 to 50 per cent., that makes a patient miserable afterwards, and in which there is no guarantee of cure of the carcinoma, can be of any use.

Somebody asked about the pathology of the obstructing prostate. I think in 21 out of 24 of the punch operations we got carcinoma, and it is generally the carcinoma which caused the punch obstruction.

DR. CHUTE: Dr. Barringer spoke about several millicurie hours; I was interested to know.

DR. BARRINGER: If you have a lobe as big as the end of your finger, that will stand 300 millicurie hours, and then in two or three months, I do it again. If he has any lumps left—and it is only by the persistence of doing it every three months for the first year that you get results, radiate there again, giving 200 to 300 millicurie hours, according to the size of the lumps.

Dr. Barringer given a rising vote of thanks by the Society.

Adjournment.

PYELONEPHRITIS WITH URINARY CALCULI AND CARCINOMA OF BLADDER FOLLOWING PROSTATIC OBSTRUCTION—TWO AUTOPSY REPORTS

BY B. D. WETHERELL, M.D., F.A.C.S.

The first case to be presented is a man of 73 first seen in Dr. Chute's office in November 1923 with a large, elastic prostate. Urine was extremely pale, very low specific gravity; showed some pus. B. P. was 220/140. His bladder was emptied by very gradual decompression. NPN in December was 41 mg.; renal function showed no dye the 1st hour; 9% the second hour. After continuing in this way for a couple of weeks his blood pressure dropped to 130/70 and after 3 weeks his bladder was practically empty. He then showed no dye the 1st hour and 3% the second. Two weeks later the function test had remained the same. In the middle of January his NPN was 40 mg.; renal function was 5% the 1st hour and 8% the second. His condition was then thought to be fair enough to try a perineal prostatectomy under sacral, which was done on January 24, 1924. His convalescence was more or less stormy due to nausea, hiccoughing and he had to have subpectorals and a number of enemas. Outside of this his convalescence was un-

eventful. On March 1 he was allowed to go home carrying a 5 to 6 oz. residual for which he was advised to catheterize himself from time to time. This residual remained the same for 2½ years when we saw him again. He reported then that he had had for 6 months quite a little frequency and pain, more referred to the rectum, and he had to strain a good deal both for bowels and urination. At this time also he had nocturia 6 times. He was catheterized and 7 ounces of turbid residual found. Cystoscopy showed small stones in his bladder. His blood pressure was back to 200/110. He was advised hospital treatment which he accepted, and under low spinal the stones were crushed and washed out of his bladder. A catheter was tied in for three days and then he was catheterized night and morning for a number of days, getting between 7 and 10 ounces of residual each time. This gradually came down to 4 ounces after a few months under his own catheterization. We felt that he probably had to do this permanently as his bladder wall showed multiple diverticula openings.

Nothing was heard from this patient until July 26, 1927 when he reported that he was having a great deal of difficulty in passing small bits of calcified material. His pulse rate was increased and he had a systolic murmur at the apex. There was no evidence of stone made out. He was advised to go into a hospital which he did not do until October 1927, when he came in with 10 ounces of very turbid, bloody residual. He was nauseated, distended, and drowsy. He was given subpectorals and a number of enemas. Renal function showed no dye at all. His NPN even following a number of subpectorals was 171.4 mg. He died Oct. 26, 1927.

Autopsy: Fair amount of distension and gas noted in intestines. Right kidney was palpated; very small; it was freed up; pedicle tied. Ureter was followed along to bladder, noting moderate dilatation of the last third near bladder. The left kidney was possibly a little larger than normal; it was quite nodular and studded with small abscesses; the ureter was dilated nearly as large as thumb, with small areas of constriction; there was also extrarenal dilatation. Bladder was then freed and removed; in freeing the bladder low down on the left side a lot of pus was evacuated, about half a cupful. When I got this bladder out I found that where the pus had come from was where I had ruptured through into a diverticulum which contained a stone as large as a small plum. Bladder opened; there was a great amount of trabeculation and thinning of the bladder wall between these hypertrophies. The opening of the diverticulum was noted and the stone seen; the ureteric orifice of this left side was found and a hairpin was passed into it; it was shown by this that it was inside and below the diverticulum opening and had nothing to do with it whatsoever; pus was evacuated and at the lower end of the ureter there was noted a lot of fine gravel and a couple of moderate sized stones. The ureteric orifice on the right side was easily noted and another hairpin was passed through.

This second case is interesting because of the symptoms presented when we first saw the man. He complained of great discomfort in the left thigh and some frequency. For one and one-half years he had had some difficulty with urination and in March or April of 1927 he entered a hospital where he was advised to have a prostatectomy done. The pathological report of this was a benign prostate. Following the prostatectomy he did not have much difficulty. He left the hospital the latter part of April or early in May. In June or thereabouts he attracted attention in the Out-Patient by speaking of pain and distress in his left thigh. It was suggested that he had a phlebitis and he was told to take care of it. This swelling of the thigh continued as well as pain and incontinence. He entered the hospital on October 1 under our care for the first time. Examination showed a swollen left thigh, possibly one-third larger than normal. His color was very poor; NPN 71.4 mg.; he was running a slight temperature and he looked perfectly wretched. An attempt was made to cystoscope him but he bled easily and could not stand the pain so it was not done. Under spinal he was later cystocoped and a huge, sloughing mass, papillary in character, was noted. As he bled so easily the exact dimension could not be made out and a cystogram was made which showed a definite deformity on the left side. He was put on catheter drainage which caused even more irritation. He was given sedatives to relieve the pain in his left thigh, which showed some distension of the superficial veins. He was advised to have a suprapubic cystostomy if the pain became too acute, but he gradually became weaker and passed away on October 21, having been under a great amount of sedatives for the previous 10 days.

Autopsy: Enlarged kidney on right side; smaller than normal on left side. On the left wall and bladder base a definite mass was felt; the rest of the bladder felt very soft. The bladder was shelled out with the ureters. The ureter on the right side was normal. Bladder opened and on the posterior wall, just behind the ureteric ridge was a surface twice as large as a silver dollar; large, raised, papillomatous and soft with an infiltrating base, some prostatic tissue noted on the right side but not very much. Bladder outlet looked all right. Ureter openings were not noted in bladder. Long chain of glands anterior to spine; two of these seemed nodular; removed for pathological examination. Involving the bifurcation of the iliac vessels on left was a huge, infiltrating mass from where bladder had been freed. It was about size of lemon. It apparently surrounded both the iliac vein and artery and probably caused most of man's pain; certainly was what caused phlebitis on this side.

Pathological examination: "On October 22 received a tumor of the bladder, a pelvic lymph node, and small pieces of liver from your patient. It is a papillary growth of the bladder. The pelvic lymph node is hard and is the size of a hen's egg. Two pieces from the liver contain several pin-head-sized opaque areas.

On microscopic examination the tumor of the bladder is composed of large irregular clusters of undifferentiated epithelial cells invading the muscular walls. The large pelvic lymph node contains a large metastatic deposit of this tumor. The liver contains small areas of degeneration. There is no evidence of metastasis in it.

Diagnosis: Carcinoma of the bladder with metastases in the pelvic lymph nodes."

THE PATHOLOGY OF THE RENAL PELVIS IN A CASE OF ESSENTIAL HAEMATURIA*

BY BANCROFT C. WHEELER, M.D.

THE number of cases of haematuria which have had to be classified as "essential" or "idiopathic" has been steadily diminishing as the accuracy of urological diagnosis has improved. There are still, however, instances in which the nature of the pathological process in a kidney which is found to be bleeding is not entirely understood, and where complete examination of such a kidney is possible, the findings are of some interest in this connection. The following is such a case:

*From the Urological Clinic of the Peter Bent Brigham Hospital, Boston, Mass.

A Jewish woman of twenty-two entered the Peter Bent Brigham Hospital on October 14, 1927, complaining of painless haematuria. The family and past history were negative. She had first noticed blood in the urine two years previously. Shortly afterwards she went to the Massachusetts General Hospital, where on cystoscopic examination blood was seen to be coming from the right ureteral orifice. A pyelogram on the right showed an apparently normal pelvis. She was advised to have an operation at this time but refused. She bled intermittently, but more of the time than not, during the next two years, the longest period of freedom from bleeding being about three weeks. At times there were moderate sized clots in the urine, but never any frequency, pain, or dysuria. During the three months preceding entry to the hospital she had noticed loss of strength, dyspnea on exertion and increasing pallor. She had been on a liver diet during the latter part of this time.

On admission she was seen to be markedly pale, and the skin was yellowish. Neither kidney could be felt and there was no abdominal tenderness. The temperature and pulse were normal. The urine was grossly bloody. The red blood count was 1,670,000; haemoglobin 35%; blood pressure 105/65. Her 2-hour phthalein excretion was 60%, and B.U.N. 12 mgms.

Cystoscopic examination a week after admission showed a normal bladder. Bloody urine was seen to come from the right ureteral orifice and clear jets from the left. Catheters passed readily the full distance up both ureters and the specimens confirmed the finding of blood from the right. The urine from the left side was clear, and negative microscopically.

X-ray plates showed no shadows which could be interpreted as calculi. A pyelogram on the right showed a pelvis normal in size and outline, but containing a vague negative shadow about 1 cm. in diameter. This was thought to be possibly an intra-pelvic papilloma or a blood clot. Operation was decided upon because of the marked anemia and the fact that the bleeding had been from the same kidney two years before.

At operation on the 28th of October, after a transfusion of 500 cc., the right kidney was exposed and found to be freely movable. It presented no gross evidence of abnormality. The pelvis was opened posteriorly and a non-adherent blood clot about 1 cm. in diameter removed. The inside of the pelvis was then irrigated with saline solution and a steady blood-stained return obtained. Through a large incision, however, no source for the bleeding was found, the epithelium appearing everywhere normal. The kidney was removed because of the history of persistent haematuria.

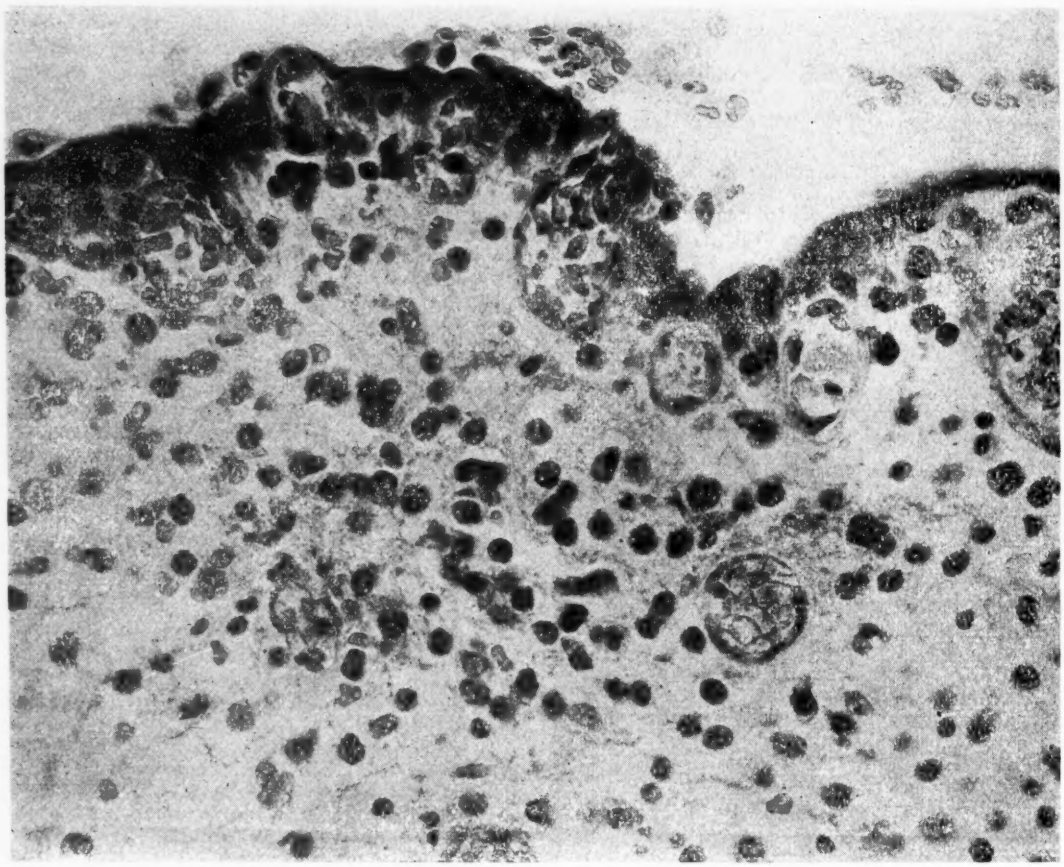


FIG. 1. High power, showing thin-walled, dilated capillaries close beneath pelvic epithelium. Two of these appear to be about to rupture into the pelvis. There is a moderate amount of leucocytic infiltration of the submucosa. Section is taken from near the tip of the papilla.

The patient has made an uneventful convalescence and there are no red cells present now in a catheter specimen of urine.

Examined grossly, the kidney was not abnormal in appearance except for its pallor. On section, the architecture was clear, and there were no cortical hemorrhages. The pelvis was normal throughout except for one papilla. The tip of this, about the size of the head of a black pin, consisted of a raised, granular, reddish material, from which blood oozed on pressure above. All the other papillae were normal.

Microscopically, again the abnormal findings were practically limited to the region of this one papilla.

Dilated, thin-walled capillaries and veins were present in large numbers close beneath the pelvic epithelium at the tip of the pyramid and there were numerous extravasations of blood cells into the submucosa and peri-pelvic fat. In some places there was absence of the endothelium of the capillaries, and in one spot rupture of the pelvic epithelium. With the blood there was also a considerable chronic inflammatory infiltration with round cells, particularly into the fat. This was present, to a less extent, in a section through the adjacent papilla.

TUMORS OF THE KIDNEY

A Report of Three Cases*

BY VINCENT VERMOOTEN, M.D.

THREE renal tumors were recently seen in Dr. Quinby's Clinic at the Peter Bent Brigham Hospital which it was thought were of sufficient interest to report.

The first, because of the great rarity of the tumor which was a very rapidly growing fibrosarcoma of the kidney occurring in a man thirty-four years of age.

The second, because although the patient was seventy years of age, she had apparently had a five-year cure of a nephroma and recently returned with a second malignant tumor of the urinary tract in the form of a malignant papilloma of the bladder.

The third, also a nephroma, but of interest because it occurred in a young girl only sixteen years of age; the most common age incidence for these tumors being between fifty and seventy years.

CASE REPORTS

Case I. B. P., a man, thirty-four years of age, was referred to the Peter Bent Brigham Hospital on account of haematuria and pain in the left side. On Labor Day of this year the patient had painless haematuria for twenty-four hours which cleared readily but recurred about twelve days before his admission to the hospital on October 31, 1927. Shortly after the onset of this recent attack of haematuria the patient experienced rather severe pain in the region of the left kidney which necessitated his going to bed and receiving several does of morphia before obtaining relief. From then till the time of admission he had a persistent, dull ache in the left upper quadrant of the abdomen. No urinary or other symptoms were present although the patient claimed to have lost twenty pounds in weight during the previous three months.

On physical examination the patient was a well developed man of early middle age who did not look acutely ill but showed evidence of rapid recent loss of weight. The heart and lungs were clear. Abdominal examination revealed a large tumor mass in the region of the left kidney which extended from the level of the umbilicus upward to disappear under the costal margin and from the lateral abdominal wall to the midline It moved only slightly with respirations. The surface was smooth, the consistence firm, and the percussion rate note over it tympanitic for the most part.

On cystoscopic examination the bladder was normal and both ureters were readily catheterized. The only specimen that could be obtained from the left side was about 2 cc. of dark brown, watery material resembling old haemolyzed blood. A left pyelogram (Fig. 1) revealed a large mass distorting the kidney pelvis.

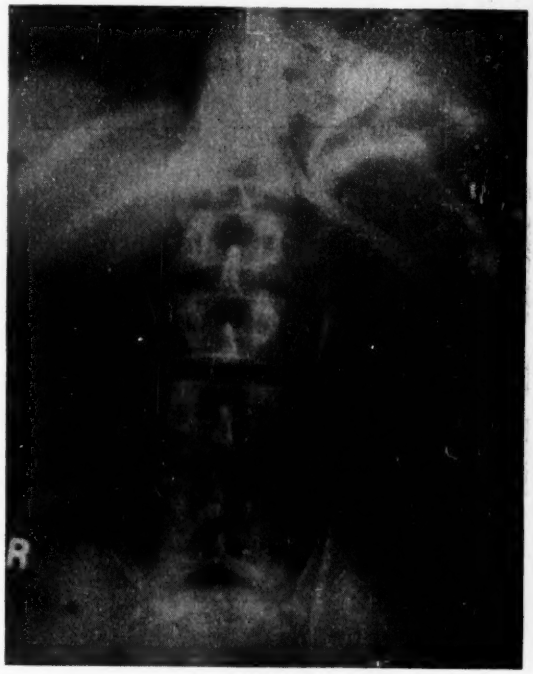


FIG. I. This pyelogram shows the marked distortion of the left renal pelvis due to an actively growing fibro-sarcoma of the kidney. (Case I.)

At operation a large tumor weighing 2700 grams and measuring 25 cm. length and 18cm. in its greatest diameter was found in the place of the left kidney. This was removed transperitoneally with some difficulty as it occupied the entire upper left half of the abdominal cavity and overlay the aorta and vena cava. Except for rather persistent hiccoughs and moderate abdominal distension during the first two postoperative days the patient's convalescence was uneventful.

Grossly the tumor invaded the small remaining portion of the kidney which seemed to cap it. The tumor itself appeared to be lobulated. Around the periphery the lobules consisted of firm, greyish, translucent masses of tissue 2 to 5 cm. in diameter whereas in the center there were much necrosis and haemorrhage.

Microscopically (Fig. II) all the sections showed a uniformity of appearance. The tumor was composed of small spindle cells which were invasive and contained numerous mitotic figures. The only arrangement was that produced by the different directions in which the cell bundles ran; that is, in every possible direction. When cut longitudinally the nuclei appeared very much elongated with rather scanty spindle-shaped cytoplasm. There was very little intercellular substance present although at a few places there was a definite amount of material staining like collagen. The cells themselves had very definite fibrils so that they seemed to represent fibroblasts. In general the appearance of the tumor as a whole, was identical with that of the non-epithelial elements of an embryoma of the kidney.

Case II. E. O. C., a white woman, seventy years of age, was first admitted to the Peter Bent Brigham Hospital five years ago with the history that

*From the Urological Clinic, Peter Bent Brigham Hospital, Boston, Mass.

she had had painless haematuria for several days three months before admission. She also had a dull ache and some discomfort in her left flank, otherwise she was asymptomatic.

The physical examination at that time showed the patient to be a well developed and well nourished, elderly woman with some hypertension and excepting for a palpable intra abdominal mass about 6 cm. in diameter, which the patient claimed she had noticed for the previous ten years, was not abnormal. The mass moved during respiration and seemed to be attached to the lower pole of the left kidney.

On cystoscopic examination the bladder was normal and both ureters were readily catheterized but the sodium iodid injected into the catheter on the left side failed to enter the renal pelvis.

At operation a kidney with a tumor in its lower pole was readily removed through an incision in the flank.

Grossly a well circumscribed tumor 4.3 cm. in average diameter was found occupying the lower pole of the kidney and encroaching upon the pelvis. The tumor presented a variegated appearance consisting of yelowish-pink nodular areas interspersed with greyish white, retracted tissue.

Microscopically (Fig. III) the tumor cells were large, cuboidal in type with a large amount of relatively clear cytoplasm and small pycnotic nuclei, resembling the cells of the adrenal cortex. The cells were arranged in long strands which anastomosed with one another and were supported by a very thin stroma.

The patient returned to the hospital on September 24, 1927, five years after her previous operation complaining once more of painless haematuria with clots.

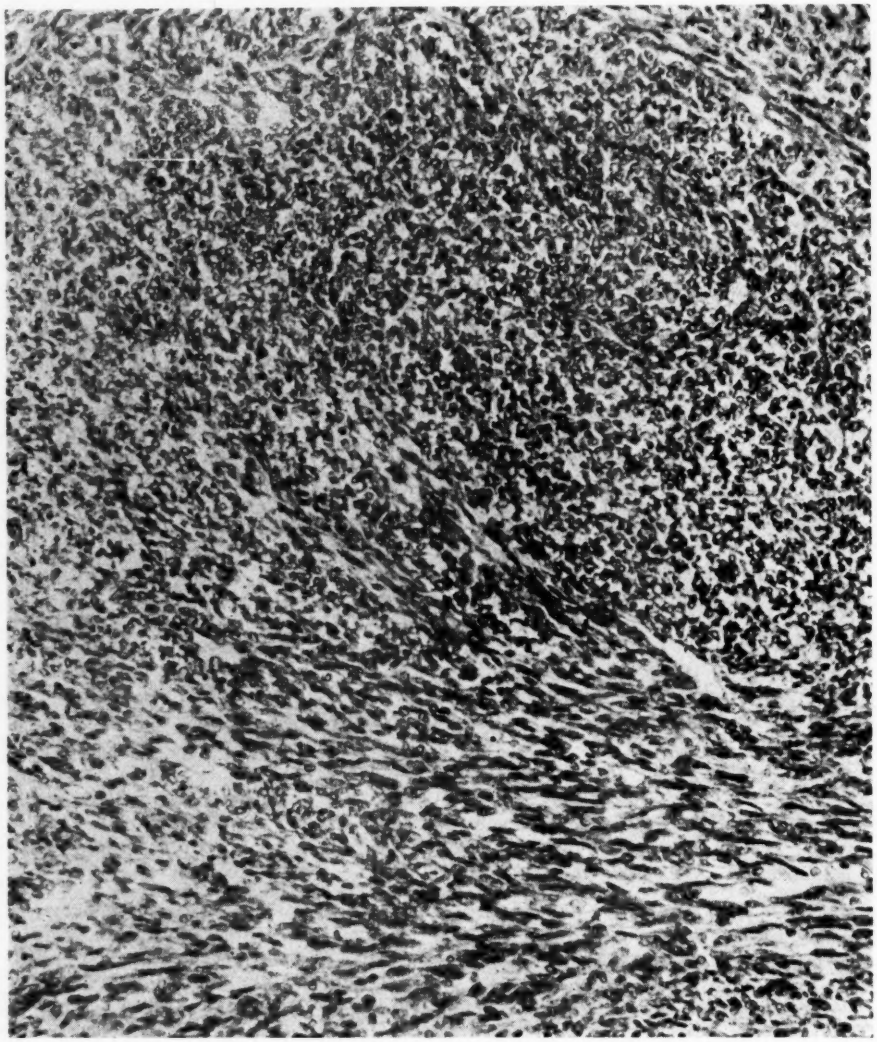


FIG. II. Photomicrograph showing the detailed structure of the fibro-sarcoma of the kidney (Case I). The bundles of spindle cells are seen running in all directions so that they are cut at various angles. Many mitotic figures are also present.

Physical examination was essentially as it was five years ago except that in place of a palpable mass in the left flank the patient now had a well healed scar. Her lungs were clear to percussion and auscultation and a roentgenogram of the chest showed no evidence of metastases.

Cystoscopic examination revealed a sessile papillary type of tumor rather large in size, overlying the right ureteral orifice but otherwise not abnormal. A biopsy done with the Young's cystoscopic rongeur showed the tumor to be a malignant papilloma of the bladder.

Microscopically (Fig. IV) the capillary arrangement of the tumor was readily seen. The individual papillae were frequently fused. Large numbers of mitotic figures were present and groups of epithelial cells, surrounded by a dense infiltration of small

round cells were seen in the bladder wall, although in the sections examined there was no definite break through the basement membrane.

At operation the tumor was readily exposed through a suprapubic opening and was seen to be about 3 cm. in average diameter. It had a cauliflower-like appearance with a broad pedicle and with some induration of the bladder wall about it. The right ureteral orifice was entirely covered by the growth. The tumor was destroyed by diathermy and then radium implanted around the periphery.

The convalescence was rather stormy due chiefly to swelling and oedema about the intramural portion of the ureter, which prevented any urine from being excreted into the bladder for the first sixty hours after operation and again for eighteen hours three or four days later. During this time the patient was rather drowsy and at times irrational although the urea nitrogen in the blood did not go above 48 milligrams per 100 cc. of blood. At the end of four weeks the patient was once more up and about with the suprapubic wound healed and excepting for some frequency of urination, was apparently perfectly well.

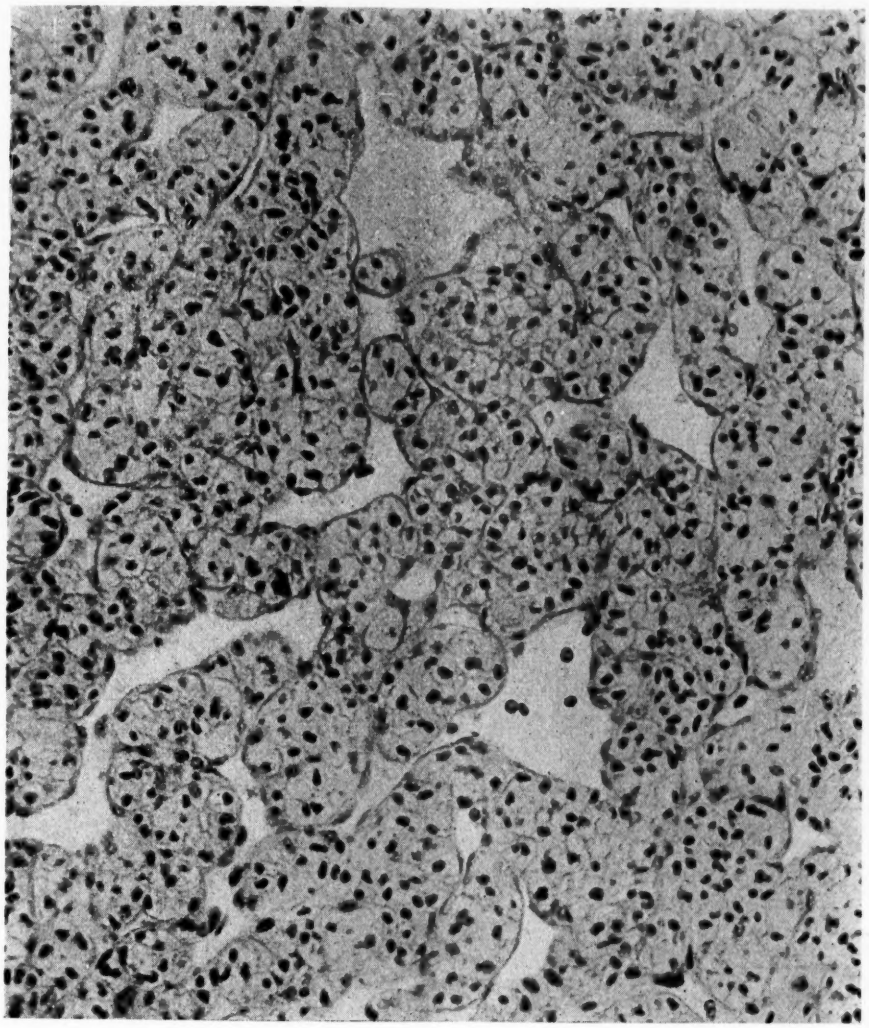


FIG. III. Photomicrograph of a portion of the nephroma described in Case II showing the long anastomosing strands of large, relatively clear cuboidal cells with small pycnotic nuclei.

CASE III is that of a girl sixteen years of age who was admitted to the Peter Bent Brigham Hospital on October 28, 1927, with the complaint of "blood in the urine." She gave a history of having had painless haematuria for several days ten months before admission. This cleared up spontaneously and the patient was apparently well again until two days previous to admission when in the morning she noticed her urine to be bloody. Three hours later she had very severe pain in the left costo-vertebral angle which radiated through to the front. This was partially relieved by morphia but was present with exacerbations for the next 48 hours after which time the pain subsided and the urine became grossly free from blood. Associated with this the patient had no urinary symptoms of any kind.

Physical examinations showed an apparently healthy girl of sixteen with normal vital signs. On abdominal examination the lower poles of both kidneys were just palpable but no apparent variation from the normal was noted. The remainder of the physical examination was also within normal limits.

On cystoscopic examination the bladder was not remarkable and both ureters were readily catheterized. A pyelogram (Fig. V) was made on the left side which revealed a markedly irregularly flattened-out upper calyx with compression of the middle calyx suggesting a tumor in the upper pole of the kidney.

At operation a kidney containing a tumor in the upper pole was removed transperitoneally without a great deal of difficulty. Convalescence was un-

eventful, the patient being up and about two weeks after operation.

Grossly the tumor measured 8 cm. in average diameter. It seemed to be well circumscribed and when cut bulged out of its capsule. It was for the most part yellowish in color with some necrosis in the center from which depressed strands of greyish tissue extended peripherally.

Microscopically (Fig. VI) the tumor was found to be composed of large cuboidal and columnar cells with much coarsely granular cytoplasm and small, darkly straining nuclei. Many mitotic figures were present. The cells, for the most part, assumed an alveolar arrangement and in places resembled the tubules of the kidney.

FIG. IV. Photomicrograph of a section of the malignant papilloma of the bladder (Case II) showing the fusing of the papillae, mitotic figures and nests of epithelial cells beneath the mucosa surrounded by large numbers of small round cells.

COMMENT

The first case presents a most unusual type of kidney tumor in so far as it is apparently a pure fibro-sarcoma of the kidney. A careful search was made through a large number of sections taken from various parts of the tumor but no epithelial or other elements were found.

The majority of tumors of this type occur as the embryonal type of tumor described by Wilms which in addition to the connective tissue cells frequently contain nests of epithelial cells as well as muscle and definite myxomatous tissue. By far the majority of renal embyomata occur before the age of three, although Hedren reported a bilateral embryonal adenomyosarcoma in a man fifty-four years of age. Our patient is thirty-four.

Our last two tumors have been called "Nephromata" in accordance with Young's nomenclature. We have found that there are very few of these renal tumors of epithelial (or endothelial) origin that are entirely uniform in their appearance. The cells and cellular arrangement of some tend more to resemble the characteristics of the adrenal cortex as in the second case, whereas others take on the tubular arrangement of the kidney epithelium as in the third case, in which, too, there are large areas, containing definite alveoli suggesting a tubular

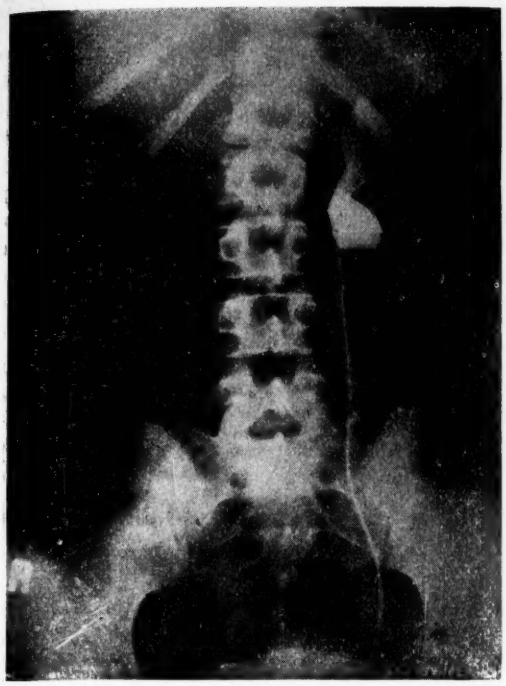


FIG. V. The left sided pyelogram in Case III showing the peculiarly flattened out appearance of the upper calyx and lack of complete filling of the middle calyx.

or alveolar adenocarcinoma. However if enough blocks are taken of the tumor and these sufficiently carefully studied, one is almost certain to find all these various types and arrangement of cells in each tumor. Not infrequently we find in renal tumors, diagnosed as carcinoma, areas which, if studied by themselves, can not be differentiated from the predominating characteristics of either of the two above types of tumor. Similarly in tumors ordinarily called "hypernephromata" we have not infrequently found areas which most pathologists would be willing to call carcinoma of one kind or another. Even Ewing who, in his "Neoplastic Diseases", gives an elaborate classification of the various form of kidney tumors says: "Recent studies have demonstrated that a large proportion of the reported hypernephromata are renal adenocarcinomata". It is for these reasons that we prefer to use Young's term "nephroma" for the malignant tumors of the kidney rather than to use any one of the various classifications which may lead one to erroneous inferences.

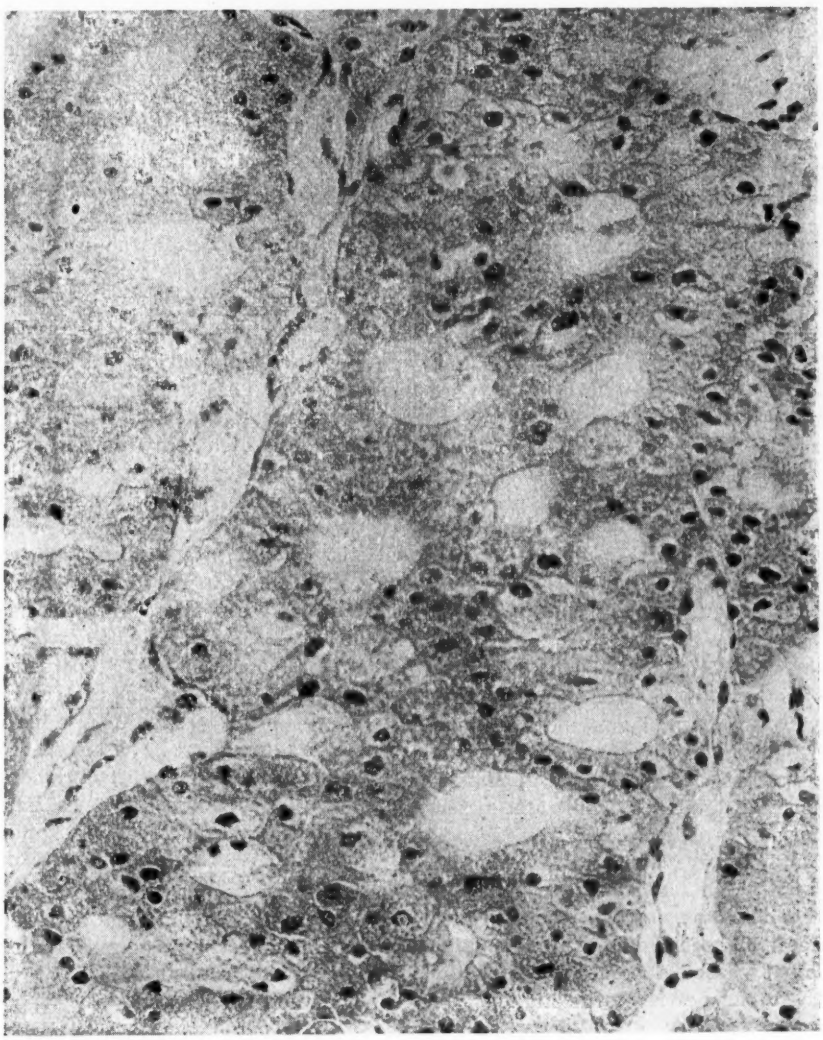


FIG. VI. Photomicrograph of a section of the nephroma described in Case III showing the tubular arrangement of the large, coarsely granular cuboidal and columnar cells, in many of which one can see mitotic figures.

DUPLICATION OF RENAL PELVIS, WITH MASSIVE HYDRONEPHROSIS IN A BOY OF SIX

BY WALTER D. BIEBERBACH, M.D., F.A.C.S.

Through the courtesy of Dr. William E. Denning I saw a boy six years old desperately ill, with temperate 104.6, pulse 145, respiration 30. His mother states he has been sick all his life. He has suffered from intermittent attacks of fever which were described as colds or acute infections. At no time has there been complaints of diurnal or nocturnal frequency or has there been any noticeable blood in the urine. However, the mother has noticed that his urine has always been milky in character. For days before the child's admission to the hospital on November 4th, 1927, he was not feeling well and complained of pain in the right lower quadrant which gradually increased until it became severe extending from the costo-vertebral angle down into the inguinal region. There was no nausea or vomiting but a history of marked constipation. The boy was well developed for his age, bright mentally, and showed no signs of past ill health which might be suspected from the above history. His physical findings were negative except for abdominal examination. This was slightly distended and tympanitic throughout. A fulness in the lower right quadrant could be made out but the borders were not sharply outlined. However, it gave me the impression of a tumor mass. There was a slight spasm along the margin of the rectus muscle, but no rigidity or tenderness.

The urine was persistently alkaline in reaction with a specific gravity between 1012-1021, positive to albumen and negative to sugar. There were many pus cells in the sediment, triple phosphatic crystals, no blood or casts. Smear for T. B. negative. Culture B. coli communis. White count 14,600, reds 5,200,000. W.B.C. 87% polys—13% monos. Kidney Function S.P.S.: first hour volume 140 c.c. 40%, second hour volume 50 c.c. 15%.

Cystoscopic examination was done under local anesthesia with No. 12 Buerger cystoscope. Anesthesia 1% novocaine. Duration of time of examination: one hour. The anesthesia was complete and the patient complained of no pain.

Findings Urethra negative. No residual urine. Bladder capacity 150 c.c. Urine was slightly turbid. Internal sphincter normal in size, shape and appearance. There was a defused chronic cystitis involving the entire mucosa of the bladder which was thickened, lying over a mild musculature hypertrophy. The left ureteral orifice was in normal position, size and shape, and secreting apparently clear urine in normal rhythms. The right orifice was found in normal position, slightly retracted, round in shape and larger than normal with no inflammatory changes. This was seen to secrete a hazy urine. The orifice was easily catherized with No. 5 leaded catheter but soon met with obstruction. After manipulation it passed a point of obstruction and seemed to go to the pelvis of the kidney.

A plain X-ray picture was taken and showed the following as seen in Plate No. 1: a curled catheter in the lower ureter about on a level with the crest of the ilium. Immediately following full passage of the ureteral catheter there was a free flow of urine such as is seen on emptying a distended pelvis under pressure. The urine was light in color and hazy in appearance. Laboratory reports were as follows:

Right Kidney Urine
Reaction: Alkaline.
Albumin: Slight trace
Sugar: Negative
Sediment: Numerous pus cells. Triple phosphates.
Culture: B. Coli Communis.

The kidney was drained until pressure was reduced to a more normal drop and a pyelogram made by injecting sodium iodide 12½%. Sol. 15 c.c. was injected with no pain and plate No. 2 shows the results: enormous hydronephrosis, extra renal pelvis 7.5x2.5 cm. containing circular area of lessened density 1.5 cm. diameter which diverts the catheter in circular direction. All calices are greatly dilated.

It was desirous at this time to find out whether he had a kidney on the opposite side and fearing inability to re-cystoscope the patient a light injection was made into the left kidney from which a normal pyelogram was obtained. The kidney was thoroughly drained before the X-Ray catheter was removed. Following the cystoscopic examination temperature fell to normal and the patient was relieved due to re-establishing drainage on the right side. Four days after the cystoscopic examination the patient began to develop a rise in temperature with mild symptoms of renal retention and operation was decided upon. (Dr. William E. Denning.)

A low oblique incision was made and the kidney delivered. The upper kidney was normal in shape, size and appearance and contained a small pelvis from which led a normal ureter. The lower kidney showed marked pathological changes, hydronephrosis with very little renal structure left. There was a large extra renal pelvis and dilated ureter with a stricture at the pelvic-ureteral junction. This was the point where my catheter was obstructed and finally passed to coil into the large dilated pelvis of the lower kidney. An attempt was made to trace the ureters to the bladder to determine if they bifurcated or entered the bladder separately and as to their position. This would have necessitated a larger incision and prolonged operation. Fearing too great a risk in keeping the boy under the anesthesia it was not done. The kidney with as much of the ureter as could be taken was removed and Plates 4-5 show the congenital defect in two positions.

This is my second case of this type of anomaly. My first case was reported in 1924, and was found in a male, aged twenty-seven. Both these cases were sent into the hospital with a provisional diagnosis of appendicitis.

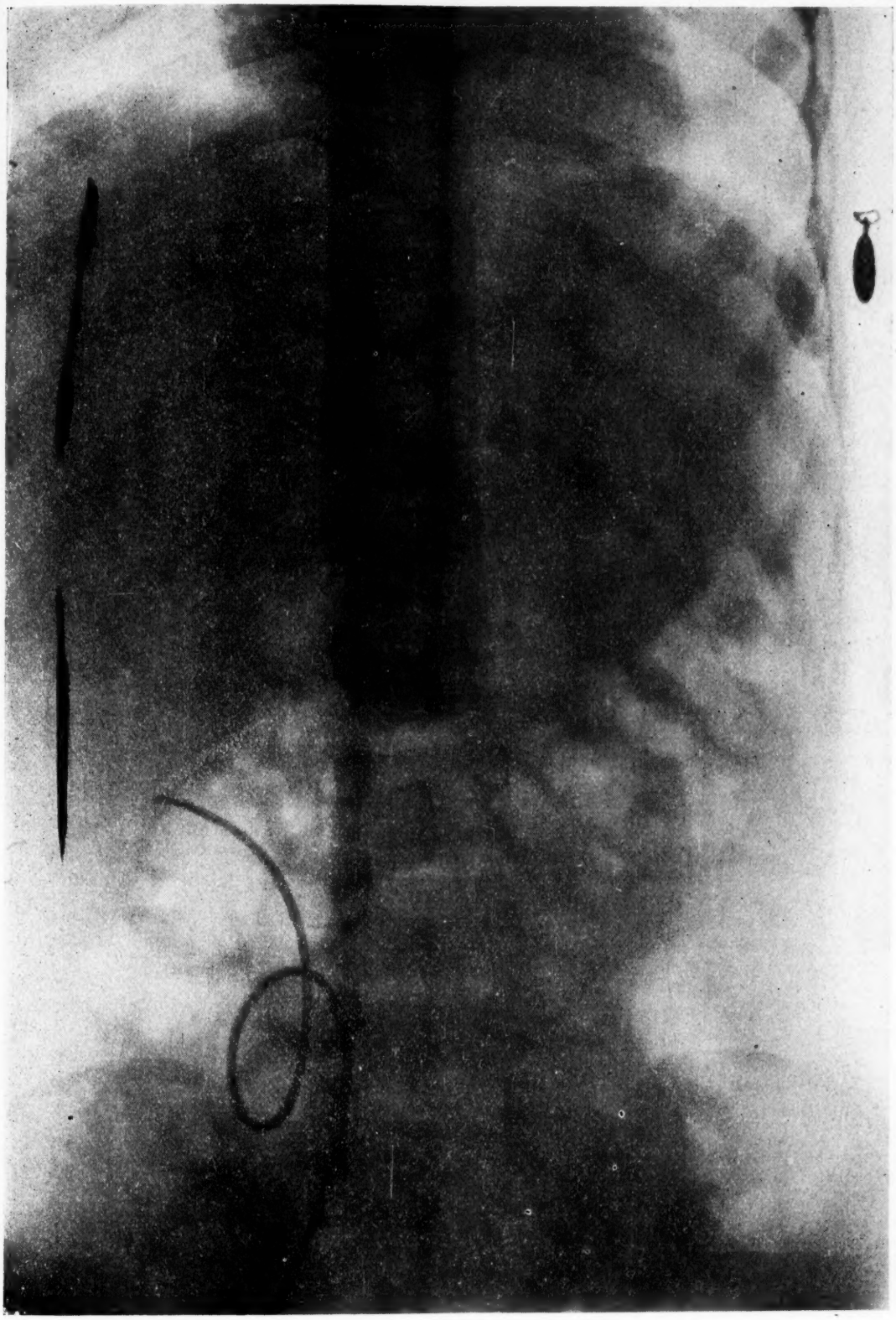


PLATE I. No. 5 X-ray catheter in right ureter.

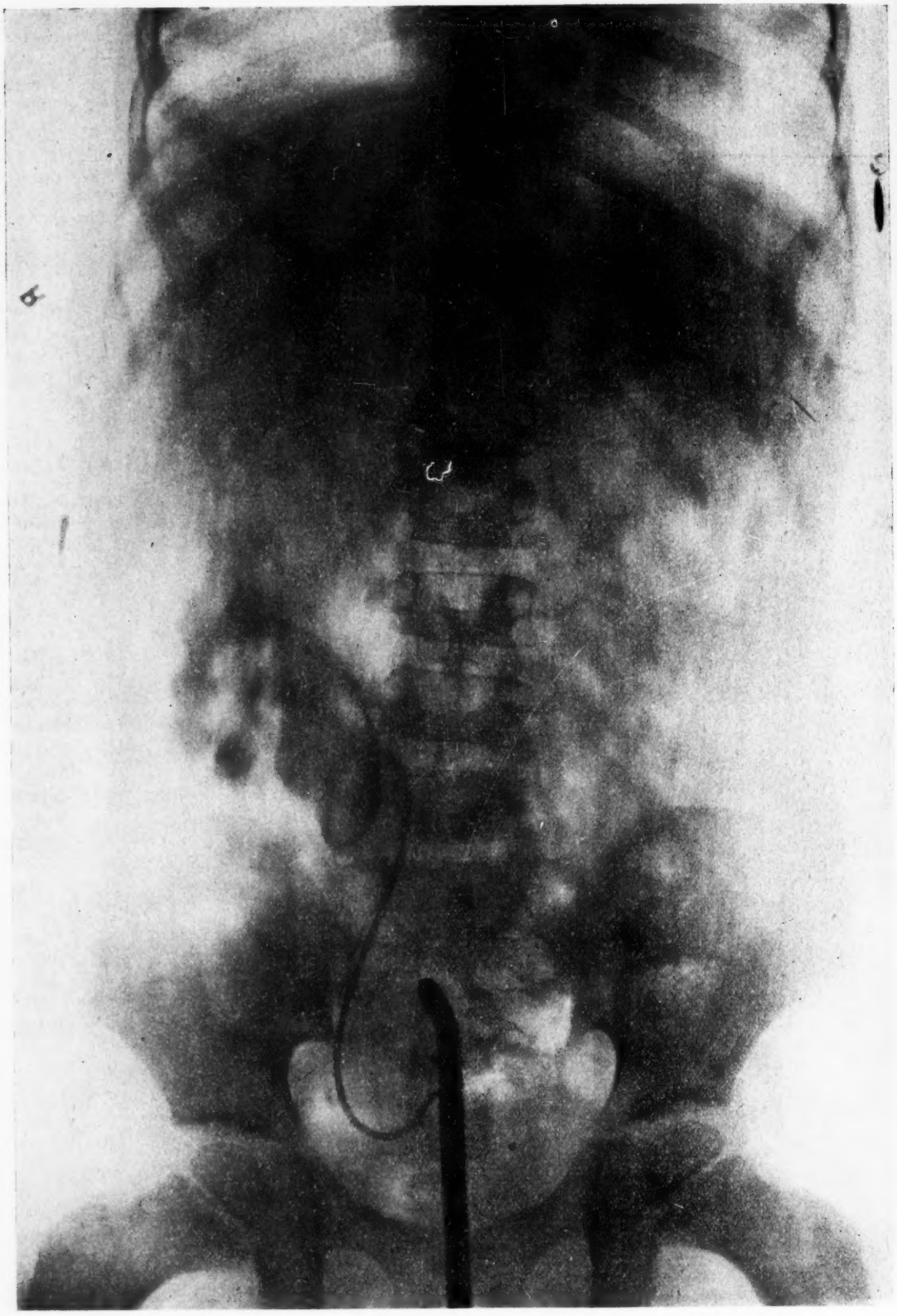


PLATE II. Pyelogram right kidney.

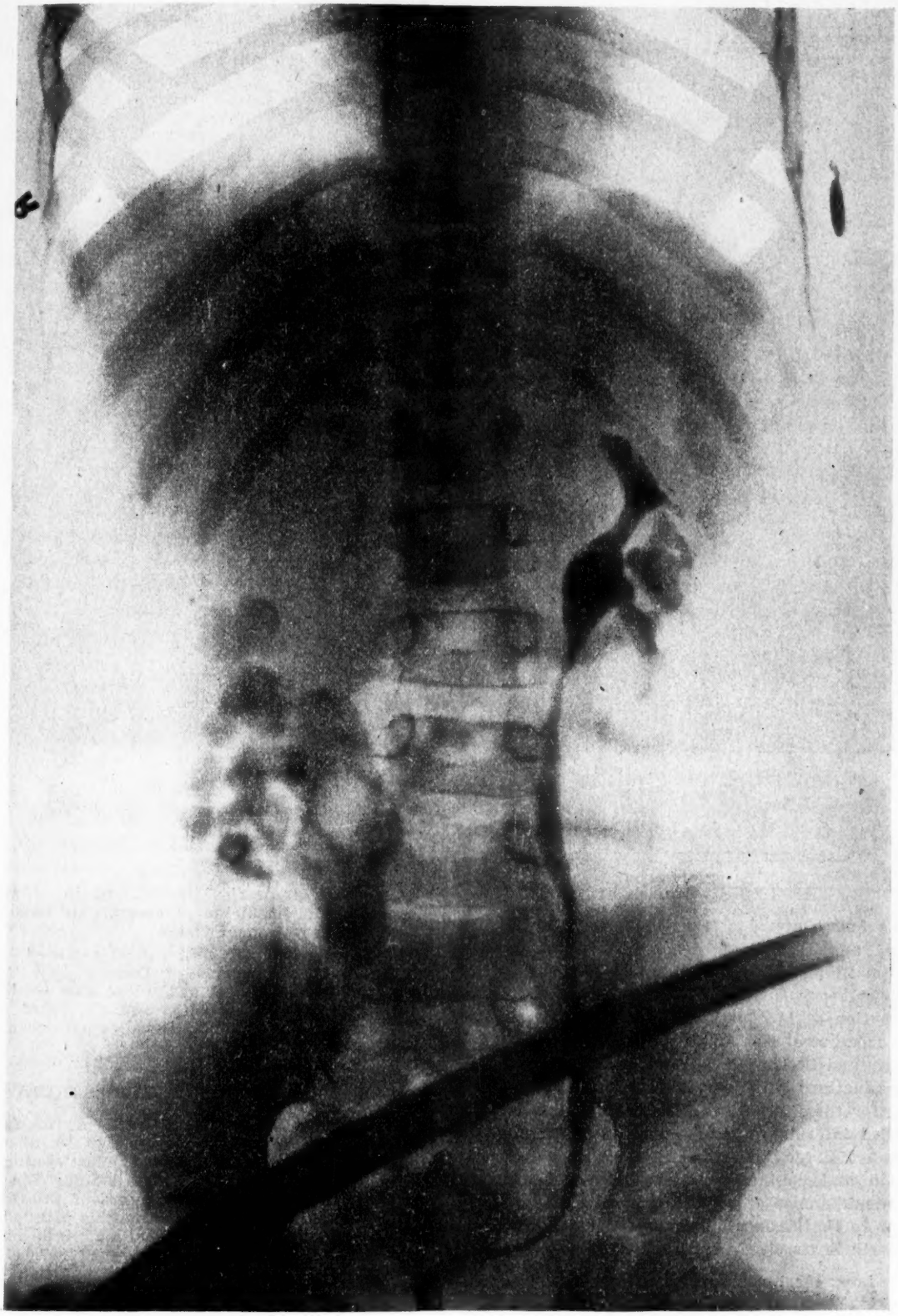


PLATE III. Left ureteropyelogram showing retained **sodium iodide in right kidney and normal left side.**

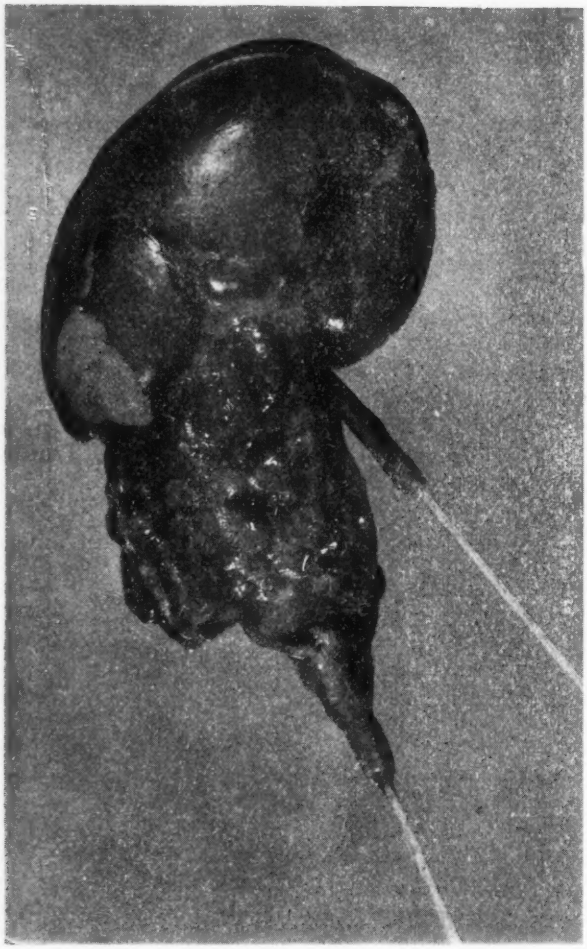


PLATE IV.
Removed kidney.

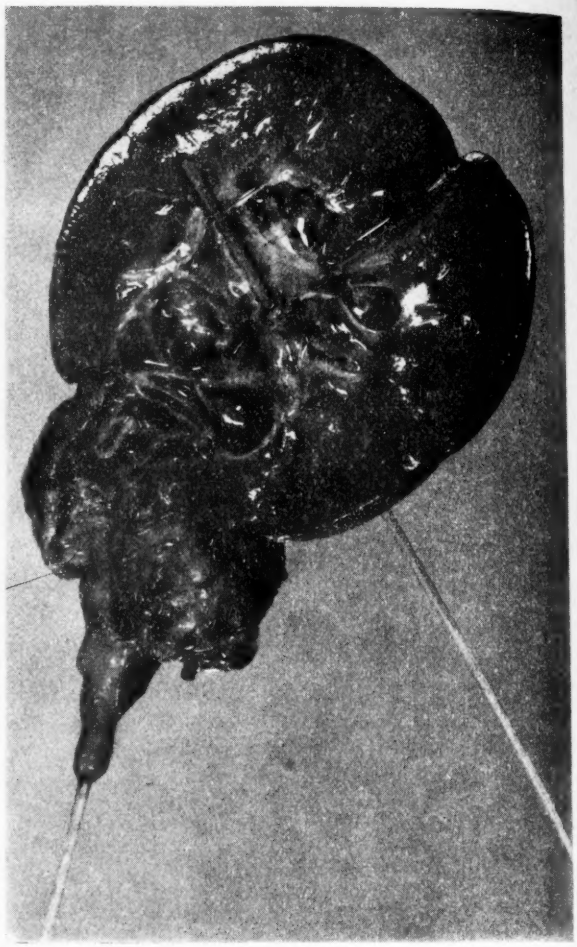


PLATE V.
Both upper and lower kidneys split open, showing each pelvis.

THE LESLIE DANA MEDAL

The fourth award of the Leslie Dana Medal, presented annually through the Missouri Association for the Blind to the person selected from the nominations received by the National Society for the Prevention of Blindness, will take place during the 1928 meeting of the American Academy of Ophthalmology and Otolaryngology, in St. Louis, Missouri.

Nominations will be received by the National Society for the Prevention of Blindness, together with detailed information prompting the nomination, until the 15th day of May, 1928. The medical profession and ophthalmological societies are invited to submit names of persons deemed worthy of this honor to the National Society, under the conditions set forth in the deed of gift, as follows:

a. Long meritorious service for the conservation of vision in the prevention and cure of diseases dangerous to eyesight.
b. Research and instruction in ophthalmology and allied subjects.
c. Social service for the control of eye diseases.
d. Special discoveries in the domain of general science or medicine of exceptional importance in conservation of vision.

The recipient of the first medal awarded (1925) was Dr. Edward Jackson of Denver. The second annual award (1926) was to the late Miss Louisa Lee Schuyler of New York City, and the third award (1927) was to Dr. Lucien Howe, until recently of Buffalo, now of Cambridge.

EPIDEMIC ENCEPHALITIS SURVEY

The Joint Administrative Board of the Medical Center of New York City, reports that Dr. Josephine B. Neal, Director of the Wm. J. Mattieson Survey of Epidemic Encephalitis, has sailed for Europe to consult with European investigators of this disease.

The work of the Mattieson Survey is planned to be the first attack of both national and informational scope on this disease which averaged 200,000 cases since 1917. On the commission, in addition to Dr. Neal, are Dr. Frederick Tilney, Professor of Neurology at Columbia University; Dr. William Darrach, Dean of the College of Physicians and Surgeons, chairman; Dr. Hubert Howe, instructor in Neurology at the same college, secretary; Dr. Haven Emerson, Dr. Frederick Gay, and Dr. W. J. Park.

ORIGINAL ARTICLES

DIPHTHERIA EPIDEMIC—MARLBOROUGH—AUGUST-NOVEMBER, 1927

BY EDWARD A. LANE, M.D.

MARLBOROUGH is a small industrial city with an estimated population in 1927 of 16,751. Public health activities are under the direction of a board of health which employs a full time agent. Not only is he the sole official worker of the board, but he is very much handicapped for lack of transportation. The school board employs a part-time physician and a full-time school nurse.

During last September (1927) nine cases of diphtheria were reported from Marlborough. In October twenty-five cases were reported. On November 2nd and 3rd the city was visited to investigate the situation, during which time case records were obtained through personal visit on thirty of the thirty-five cases reported up to that time.

State Health Department records show the following diphtheria incidence for Marlborough for the past ten years:

1918	15	cases	1923	11	cases
1919	21	"	1924	70	"
1920	14	"	1925	9	"
1921	10	"	1926	1	"
1922	19	"	1927	5	" (prior to onset of epidemic in August)

The five cases in 1927 prior to the onset of the epidemic occurred as follows:

February	1 case
March	3 cases
May	1 case

The course of the outbreak by weeks according to date of onset is as follows:

			By Probable Source		
Week Ending		Total	Relative	School	Unknown
August	20	1	1	—	—
"	27	4	4	—	—
September	3	3	3	} exact	—
"	10	1	1	} 2 date	—
"	17	—	—	} unknown	—
"	24	3	1	1	1
October	1	3	1	1	1
"	8	4	—	4	—
"	15	4	—	2	2
"	22	2	—	1	1
"	29	2	—	1	1
On "	31	1	—	—	1
Unknown		2	(Sometime the forepart of September)		
		—	—	—	—
		30	11	12	7

The two unknown cases included in the foregoing tabulation occurred in the same family at an interval of about a week. The onsets were some time the early part of September, but even the approximate dates could not be given with any assurance.

The cases appear to divide themselves roughly into two groups, the earlier of which, according to time of occurrence, centered about a related group of individuals living in the same neighborhood. The first nine cases in the outbreak and two cases occurring a little later in the course of the epidemic can be so classed. The other group, the first case in which occurred possibly about three weeks after the first case in the group just mentioned, centered about the John J. Mitchell School and consisted of twelve cases. The remaining seven cases were apparently due to chance contact with mild missed cases or carriers.

The first case to occur was in a child, age seven years, one of a family of six, all of whom developed the disease at intervals of two or three days. The onset of this case was given as about August 20th. This patient was not seen by a physician until September 3rd, about two weeks later. A positive culture was reported September 7th and the case reported by the local health department September 8th. All six members of this family and two other cases in this same group, one of which gave a history of direct exposure to the family just mentioned and the other of which had been exposed to the foregoing case, occurred before medical attention was secured for the first patient and the others in his family.

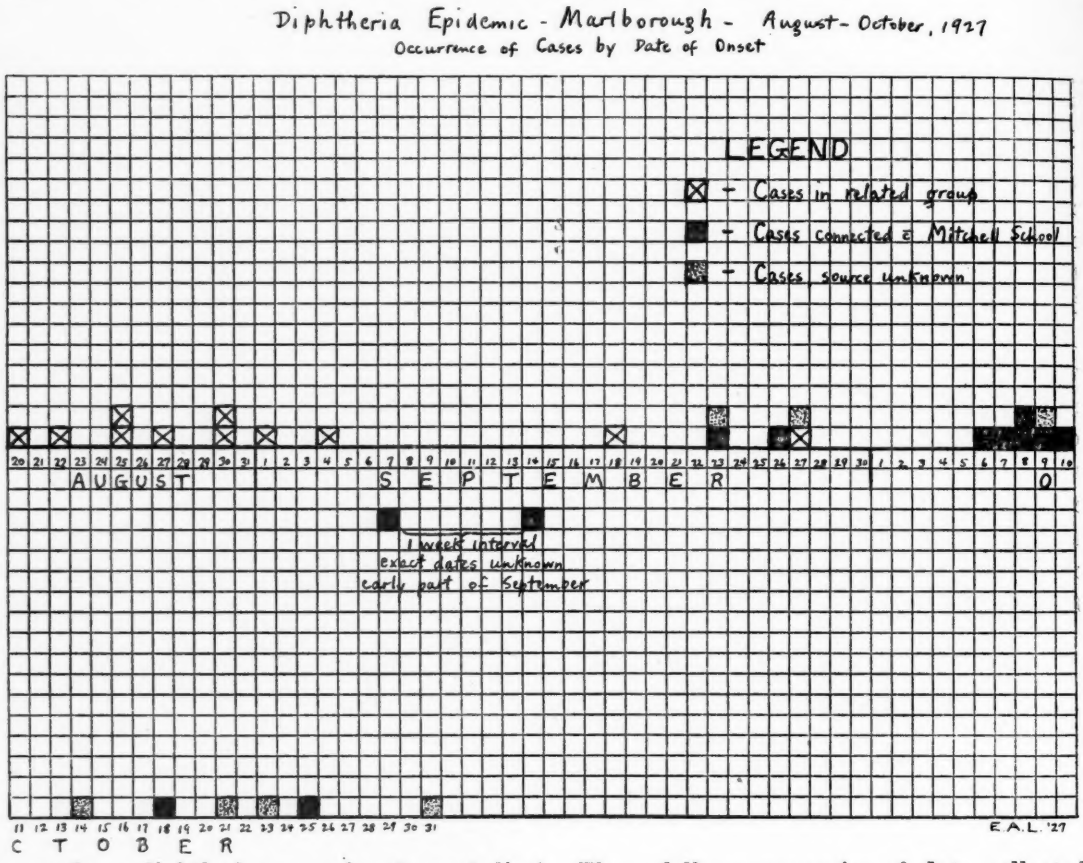
The primary case in the school group was one of the two in which the exact date of onset is unknown. These two cases, occurring a week apart in the same family, had their onset some time the forepart of September. As the earliest subsequent case in this group did not occur until September 23rd, there is no question about the chronology of these first cases. No possible connection could be discovered between the first school case and the individuals in the earlier related family group. This first school case was in a boy, age ten years, one of a family of twelve, only one other member of which, a sister age twelve years, gave a definite history of diph-

theria. Her onset was about one week after that of her brother. The boy contracted some time the forepart of September what later proved to be nasal diphtheria. There had been no previous known or suspected exposure. His condition was not discovered until October 7th, some three or four weeks after onset, when a routine nasal culture at school was reported positive. He was said never to have been very ill but to have had a profuse, slightly brown colored nasal discharge. He had continued at school during the greater part of the three or four week period between onset of infection and discovery at school.

By October 7th, when the boy with nasal diphtheria was first discovered, four other school cases had occurred in addition to this boy's sister. Of the Mitchell School cases, three had been more or less intimately associated with the primary nasal case.

One missed case was discovered in a school boy. A very obvious paralysis of the palate following what the mother described as a mild sore throat made the diagnosis very evident. Two sisters of this boy subsequently contracted the disease at intervals of fourteen and twenty-two days.

From the evidence gathered it seems quite probable that the epidemic of diphtheria in Marlborough during the latter part of August, September and October, last year, was due in part to contact among a related group of individuals and in part to a school outbreak. It further seems quite probable that a case of nasal diphtheria which was not recognized until three weeks or more after onset and which had not hindered attendance at school until a positive culture was obtained on October 7th was the inciting cause of the school outbreak. The source of infection of the initial cases in both groups could not be ascertained.



There follow summaries of data collected on the individual case records:

CULTURES

Cultures had been reported on all but four cases, all of which were positive. One of the four exceptions was treated by an out of town physician; another was the missed case never seen by a physician; a third was hospitalized as a severe clinical case; while the fourth was a sister of the last mentioned.

INTERVAL FROM ONSET TO FIRST VISIT OF DOCTOR

1 day	4 cases	7 days	5 cases
2 days	5 "	9 "	1 case
3 "	3 "	12 "	1 "
4 "	2 "	21 "	1 "
5 "	1 case	Unknown	3 cases
6 "	3 cases	No physician	1 case

INTERVAL FROM FIRST VISIT TO REPORT BY DOCTOR TO LOCAL BOARD OF HEALTH

Same day	2 cases	5 days	2 cases
1 "	2 "	10 "	1 case
2 days	6 "	Unknown	9 cases
3 "	4 "	Not reported	1 case
4 "	3 "		

SEX

Thirteen cases were in males; seventeen in females. The one fatal case occurred in a school girl, age ten, who had attended the Mitchell School.

AGE

Age Group	Cases	Age Group	Cases
0-4	5	20-24	—
5-9	13	25-29	1
10-14	4	Adults	3
15-19	3	Unknown	1

ANTITOXIN

Only two patients did not receive antitoxin. In both instances, fortunately, the disease was said to have been clinically quite mild. One was a child in whom the disease was not recognized until he returned to school and was sent home because of a positive school culture. In the other case, also, the child who had been kept home for what was thought to be a "cold" was sent home because of a positive culture taken on return to school.

PREVIOUS DIPHTHERIA

None of the patients were known to have had diphtheria previously.

INTERVAL FROM ONSET TO ISOLATION

This interval, which varied widely from one day to three weeks, is due in part at least to failure to call or delay in calling a physician.

1 day	2 cases	9 days	1 case
2 days	1 case	11 "	1 "
3 "	2 cases	13 "	1 "
4 "	3 "	16 "	1 "
5 "	2 "	18 "	1 "
6 "	2 "	21 "	1 "
7 "	7 "	No isolation	3 cases
8 "	1 case	Unknown	1 case

SLEEPING ARRANGEMENTS

In eight instances the patient is said to have slept alone. Among the remaining twenty-two cases, there was only one family, that with six cases, in which a patient had slept with a subsequent case.

NUMBER OF FAMILIES IN SAME HOUSE

In 14 cases	but one family in the house
" 11 "	two families in the house
" 2 "	three families in the house
" 1 case	four families in the house
2 cases,	both in children, occurred in a boarding house.

ECONOMIC STATUS

Good	—
Fair	16
Poor	14

PREVIOUS EXPOSURE

Known	17	Own family, other infected family or Mitchell School
Suspected	6	Mitchell School
Unknown	7	

CLINICAL TYPE OF DISEASE

Pharyngeal	26	Naso-pharyngeal	2
Laryngeal	—	Pharyngo-laryngeal	1 (intubated)
Nasal	1		

The pharyngo-laryngeal case occurred in a child, age four years, who had had the tonsils removed about six days prior to onset.

MILK

Milk was obtained from eleven different sources. One family had its own cow. In twenty-four of the cases the milk used was said to have been from a pasteurized supply.

Twenty-five patients used it regularly as a beverage; three, only occasionally; one, very seldom and one only in cocoa.

FATAL CASES

There was one fatality in a girl ten years old. This was a severe pharyngeal case which showed immediate improvement following the administration of antitoxin. Death occurred nine days after onset from acute myocarditis.

It should be added that immunization against diphtheria with toxin-antitoxin had never been done in Marlborough as a community measure, and in none of the thirty cases investigated had the Schick test ever been made or toxin-antitoxin administered. Since the investigation, extensive diphtheria immunization has been carried on in the Marlborough schools.

FUNCTIONAL RESULTS AFTER PROSTATECTOMY*

BY CHANNING S. SWAN, M.D.

THE patient who is faced with the necessity of having his prostate gland removed, naturally wants to know—not only what his chances are of surviving the operation, but also how good a functional result he is going to get. Although the literature on the first question is abundant, little has been written concerning the second problem of interest, i. e., the functional result. In Vol. II of Young's "Practice of Urology", P. 461, a tabulation of the results obtained in 55 cases of suprapubic prostatectomy is recorded. Hinman, in the *California State Medical Journal* of April, 1922, also gives a study of functional results. More recently, an article by W. T. Briggs in the *Journal of Urology* for October, 1927, reviews 50 consecutive cases with their functional result.

In order to get a more definite statistical reply to this phase of the prostate problem, it was felt that the results on an additional 100 cases would be helpful. In this series of 100 cases no

*From the Urological Clinic of Dr. John H. Cunningham.

patient is included who had not been out of the hospital at least six months; it being believed that this interval of time is necessary to determine what the end result is in regard to function. Furthermore, all these cases are from private practice and there is a complete record on each.

A questionnaire was sent to the 121 prostatectomy patients who were discharged from the hospital previous to six months ago; it being found necessary to send out 121 interrogations to get the 100 replies. The questionnaire was as follows:

(1) Did the operation restore your urinary function to normal? If not, what trouble do you have?
(2) a—How many times do you have to get up at night to pass your water?
b—How often do you pass your water in the daytime?
(3) Is there any leakage or have you complete control?
(4) Is there good force to the stream?
(5) How much water will your bladder hold without discomfort?
(6) Have you required any further treatment? If so, what?
(7) How is your general health?

To the *first question,* "Did the operation restore your urinary function to normal?" there were 82 replies of "Yes." Four of these replies were from relatives of patients who had died of something other than urinary difficulties since their discharge from the hospital. Some of the qualified answers were as follow:

"Have to make water more frequently in the daytime."
"Have to strain to empty bladder completely."
"At times irritability and frequency for few days."
"Can't empty bladder at one effort at voiding."
"Stinging and burning at times on voiding."
"Slight weakness on lying down or getting up."

Other replies which criticised the functional result came under the matter of leakage or control and will be quoted after the question in regard to those.

These 100 cases include all types of operation on the prostate and taking the series by type of operation, the answers to the first question are divided as follows:

One Stage Suprapubic Prostatectomy:	
Answered "Yes"	47
Answered "No" or qualified answer	7
Two Stage Suprapubic Prostatectomy:	
Answered "Yes"	22
Answered "No" or qualified answer	1
Perineal Prostatectomy:	
Answered "Yes"	4
Answered "No" or qualified answer	5
Punch Prostatectomy:	
Answered "Yes"	9
Answered "No" or qualified answer	5
Total	100

All these statistics are on benign glands, the malignant prostate not being considered in this series.

The first part of the *second question,* regarding nocturia, brought the following replies:

None	18
Once	24
None to Once	16
Once to Twice	13
Twice	12
Two to Three	5
Three to Four	4
One to Four	2
Two to Five	2
Total	96

The replies to the questionnaire from the relatives of the four patients who had died contained answers to the first question only. Therefore, a total of 96 will appear in the remaining classification.

The question of day frequency went as follows:

Two to Three	9
Three to Four	33
Four to Five	15
Five to Six	13
Six to Seven or Eight	18
Eight to Ten	3
No answer	5
Total	96

In interpreting these last figures, it should be remembered that all patients, when discharged from the hospital, are urged to continue drinking several extra glasses of water a day.

The *third question,* "Is there any leakage, or have you complete control" brought an answer of "No leakage and good control" from 82, which corresponds to the number answering "Yes" to the first question, and seems to, therefore, be the main question that interests the patient after operation.

Some of the qualified answers to this question were as follows:

"Not complete, but improving."
"Leaks a little when gets excited."
"Occasionally a little dribbling."
"Imperfect control; leakage when constipated."
"Slight leakage at times." "Leakage in cold weather."
"Slow speed and dribble."
"A little leakage when very tired."
Six made a reply of "slight leakage."

The fourth question, concerning "Force of Stream" was answered as follows:

Good	68
Fair	14
Poor	13
None	1
	96

Here again it will be noted that the total of the "good" and "fair" answers equals the 82 answers of "Yes" to the first question.

The question "How much will your bladder hold?" apparently wasn't well understood

because there were 31 who replied "I don't know". However,

19 replied a pint or more
2 replied 11 to 12 oz.
41 replied 6 to 8 oz.
3 replied Very little

The *sixth question*, "Have you required any further treatment; if so, what?" brought "No" from 76. Eight patients reported an attack of epididymitis, either unilateral or bilateral, after getting home from the hospital. Two reported having had attacks of pyelitis. Two reported that the wound was slow in healing, and several stated that they had had sounds and irrigations as after treatment.

The seventh quesiton, "How is your general health?" was answered as follows:

Good	73
Fair	7
Reported good up to death by relatives	4
Poor	1
Weak legs	7

The remaining 8 reported such matters as constipation, arteriosclerosis, dyspnoea, gas on the stomach, rheumatism, and the like.

CONCLUSIONS

That 82 out of 100 patients should reply that prostatectomy had returned their urinary function to normal is certainly a hopeful outlook for the patient suffering from urinary obstruction, of benign prostatic origin. As might be expected, the suprapubic method gave the best functional result. Those on whom the perineal route was used were in very poor general condition, which added to their chances of getting a poor functional result. That 8 patients should report an attack of epididymitis after leaving the hospital is perhaps a little surprising and a fact that would interest those who advise routine bilateral vaso-ligation before operation. It will be remembered that it was necessary to send out 121 letters to get the 100 replies, and naturally it is interesting to conjecture what the results were in those 21 cases and how they would affect the statistics of this series. All that can be said, however, is that no replies were received, for some reason or other; and that the results in this series run about the same as those quoted by Drs. Young, Hinman, and Briggs.

GRASS IN THE URINARY BLADDER

BY VINCENT VERMOOTEN, M.D.*

INTRODUCTION

FOREIGN bodies in the bladder are not of infrequent occurrence. They are found much more commonly in the female than in the male patient. The majority are presumably introduced accidentally during attempted masturbation.

The rarity of grass being the foreign body in the bladder due to its flexibility and the difficulty of introducing it, and the infrequent finding of a foreign body unassociated with infection or calculus are the prime reasons for reporting this case.

CASE REPORT

The patient, an unmarried stenographer, 19 years of age, came to the Urological Department of the New Haven Hospital with the complaint of pain in the right side.

Her personal and family histories were irrelevant. She dated her present illness to eight months previous, when she experienced pain in the right lower quadrant without any urinary or gastric symptoms. On account of the pain, her appendix was removed and was found to be normal. When the pain recurred after the operation, she was referred to a urologist, who treated her for ureteral stricture without relief of symptoms. She now began to have attacks of syncope, which gradually increased in frequency until she was having as many as two a week. These attacks apparently never occurred at home but often occurred in the office where only men were present. She denied having had sexual intercourse or having masturbated.

On physical examination the patient was found to be a very well-developed girl, not acutely ill. Excepting for a definite sacro-iliac sprain on the right side, no abnormalities were found.

Cystoscopic examination revealed a bladder of 400 cc. capacity lined by a normally smooth, pale grey and glistening mucosa. The trigone was not reddened; the ureteral orifices were normal and functioned clear urine at regular intervals. In the bladder a narrow, elongated, dark foreign body was seen, which was readily removed through an operating cystoscope. On examination this proved to be two blades of grass measuring 21 and 12 cm. in length. They were greenish in color, soft and flexible, with no concretion attached. (See Figure 1.) The ureters were readily catheterized with No. 6 French catheters. A right pyeloureterogram was made which showed no variation from the normal. The urine from both kidneys and from the bladder contained no pus or organisms.

COMMENT

Briggs[1], in a recent article which sums up the literature on this subject, mentions a great variety of articles found in the bladder but does not include grass.

Chenoweth's case[2] is the only one reported in the literature in which grass was found in the bladder. In his case a piece of grass 15 cm. long, with concretions, was removed from the bladder of a young man who sometime previous-

*From the Department of Surgery, Yale University School of Medicine, New Haven, Conn.

ly had used grass to push "gonna salve" into his urethra.

According to Zukerkrandt[3] wax does not become encrusted, silver slowly, while iron, rubber and vegetable matter are most rapidly coated.

Practically all foreign bodies which have not knowingly been introduced into the bladder by a physician are only found after severe infection has resulted and commonly not until calcareous deposits have formed about them. This is due to the fact that the patient who masturbates and accidentally introduces a foreign body does not seek medical aid until his symptoms practically incapacitate him; even then his apparently intractable cystitis may be treated for months before the etiology is discovered by cystoscopic or roentgenological examination.

FIGURE 1. The two blades of grass (natural size) which were removed from the bladder.

This patient had evidently introduced the grass into her bladder between the time she had her stricture dilated and her admission to the New Haven Hospital. It could not have been there very long or the normal sequence of infection and calculus formation would have resulted.

SUMMARY

Foreign bodies in the bladder are not of infrequent occurrence. They are, however, in most instances associated with infection and many are complicated by the formation of a calculus.

The case reported here was one in which vegetable matter in the form of two blades of grass was the foreign body and in which neither of the commonly associated complications were present.

REFERENCES

1 Briggs, W. T.: Jour. of Urology, 1926, XV, 383.
2 Chenoweth, E.: Med. Jour. of Australia, 1925, I, 340.
3 Zuckerkrandt, O.: Quoted from Briggs.

UNITED STATES PUBLIC HEALTH SERVICE

Chronological List of Changes of Duties and Stations of Commissioned and Other Officers of the United States Public Health Service

February 15, 1928

Sanitary Engineer H. R. Crohurst. Directed to proceed from Cincinnati, Ohio, to Washington, D. C., and return, in connection with stream pollution investigations. February 8, 1928.

Surgeon Joseph Bolten. Directed to assume duties of Medical Officer in Charge of Venereal Disease Clinic at Hot Springs National Park in addition to his duties as Superintendent of the Hot Springs National Park. February 8, 1928.

P. A. Surgeon L. C. Scully. Directed to proceed from Ellis Island, N. Y., to Asbury Park, N. J., and return, for the purpose of examining persons of the Coast Guard. February 8, 1928.

Assistant Surgeon E. H. Carnes. Directed to proceed from Ellis Island, N. Y., to Asbury Park, N. J., and return, for the purpose of examining persons of the Coast Guard. February 8, 1928.

A. A. Surgeon Charles Bolduan. Relieved from duty at Bremen, Germany, and assigned to duty at Ellis Island, N. Y. February 8, 1928.

Surgeon Carroll Fox. Directed to proceed from Rosebank, N. Y., to such ports or places as may be necessary in Brazil, Argentina, Paraquay, Uraguay, Chile, Peru and Ecuador, in connection with matters related to preventing the introduction and spread of epidemic diseases into this country. February 9, 1928.

A. A. Dental Surgeon B. M. Prejean. Directed to proceed from Carville, La., to Pensacola, Fla., and return, to secure custody of two patients. February 9, 1928.

Surgeon Charles Armstrong. Directed to proceed from Washington, D. C., to Baltimore, Md., and return, in connection with field investigations of public health. February 9, 1928.

Assistant Surgeon General (R.) Wm. S. Terriberry. Directed to proceed from New York, N. Y., to Oswego, N. Y., and return, to investigate a claim for the U. S. Employees Compensation Commission. February 11, 1928.

A. A. Surgeon O. C. Wenger. Directed to proceed from Hot Springs, Ark., to Indianola, Miss., to deliver lectures to School of Health Officers at that place, and to Athens, Ga., to deliver address at Medical Institute being held in that place. February 11, 1928.

Assistant Surgeon Ralph Horton. Relieved from duty at Baltimore, Md., and assigned to duty at Detroit, Michigan, M. H. No. 7. February 11, 1928.

Boards Convened

Boards of officers convened to meet at Montreal, Canada, at call of chairman, to examine alien.

Detail for the Board.

Surgeon Louis Schwartz, Chairman.

A. A. Surgeon A. G. Morphy, Member.

A. A. Surgeon F. H. Mackay, Recorder.

Official:

H. S. Cumming, *Surgeon General.*

MEDICAL PROGRESS

PROGRESS IN ORTHOPEDIC SURGERY (1927)

BY RALPH K. GHORMLEY, M.D.

THIS "progress" covers the material available from April 1, 1927, to January 1, 1928. The author wishes to acknowledge the use of abstracts prepared by the authors of the "Progress of Orthopedic Surgery" published in the *Archives of Surgery*.

No outstanding work has come to light during this period. Some important pieces of work have been published, and these are here abstracted.

ARTHRITIS

Further reports on the use of O-iodoxybenzoic acid in the treatment of arthritis come from Smith (*Boston M. & S. Jour.*, Feb. 24, 1927) and Trauba (*Jour. A. M. A.*, Oct. 11, 1927) and they are somewhat less favorable than those of Young & Youmans published last year. However these authors both feel that the treatment is worthy of further trial in selected cases. More careful selection of cases is needed as well as a more definite knowledge of the best method of administering the drug.

By neutralization of alexin in arthritic patients' blood Hadjopoulos and Burbank (*Jour. Bone & Joint Surg.*, Apr. 1927) have grown pure cultures of streptococci. They have then produced arthritis in animals by injection of these organisms into the blood stream.

Nachlas (*Jour. Bone & Joint Surg.*, Jan., 1927) concludes from his studies that neither blood calcium or phosphorus are affected in either type of arthritis.

Payr (*Munch. Med. Woch.*, Vol. 74, No. 33, p. 1437) adds to the evidence in favor of synevectomy of the knee in cases of infectious arthritis.

Thomas (*Jour. A. M. A.*, Dec. 24, 1927) summarizing the results in 107 cases of gonorrhoeal arthritis finds the highest percentage of cures in cases where the prostate and seminal vesicles received special attention, and where biologic and chemo-therapy were employed. Operative procedure and fixation tended to produce the greatest number of permanently disabled joints.

Swaim, L. T., and Spear, L., (*Boston M. & S. Jour.*, Sept. 1, 1927) have studied the basal metabolism in 200 cases of arthritis of all types. They found that age, duration of disease, and activity of the disease had no effect on the basal metabolism. In the atrophic and hypertrophic cases there was a tendency to a minus rate.

TUBERCULOSIS

Hibbs (*Southern M. Jour.*, Apr. 1927) reviewing his cases of tuberculosis of the knee and hip emphasizes again the importance of a correct diagnosis by laboratory methods. In cases of knee joint tuberculosis there were 16% error in diagnosis while in hip joint tuberculosis 22% were incorrectly diagnosed. His figures in both these series indicate much better results following operative measures than where conservative measures were followed.

Koenig (*Zentr. f. Chir.*, April 23, 1927) calls our attention again to the fact, not too well recognized, that there may be bony foci of tuberculosis present without any demonstrable change in the X-ray plate.

Henderson, M. S., and Fortin, H. J., (*Jour. Bone & Joint Surg.*, Oct. 1927) have reviewed 211 cases of proven tuberculosis of the knee joint treated by resection. 194 of these cases are included in the end result study. Of these 88.5% secured good bony union. 8.5% are dead. This is a high percentage of "cures" of tuberculous knee joints, if one can conclude that by good bony union the authors imply a cure.

This report together with that of Hibbs indicates a much stronger trend toward operative treatment at least of tuberculosis of the knee joint.

Guillot, M., and Dehelly, G., (*Bull. et Mem. Soc. Nat de Chir.*, 1916, 1: 1144) in treating 34 cases of tuberculosis of the spine found that the Hibbs fusion alone was not so satisfactory as the same operation with an osteoperiosteal graft added.

The studies of Atsatt (*Jour. Bone & Joint Surg.*, Oct. 1927) point toward a more accurate method of detecting the presence of active tuberculosis. His method consists in simultaneous tests with four strengths of tuberculin. His results indicate that in proper hands such a procedure can be of real diagnostic value.

Kiernan, J. A., (*Boston M. & S. Jour.*, June 2, 1927) writing on the subject "Livestock Diseases Affecting Public Health" gives some very important facts on tuberculosis. Of 1,173,626 cattle reacting to tuberculin and being killed 91.7% showed definite macroscopic tuberculosis. He further outlines the work being done to eradicate the disease from milk producing herds.

OPERATIONS

Brackett's (*Am. Jour. of Surg.*, March 1927) discussion of reconstruction operations on the hip discourages the procedure in tuberculosis at any stage. His recommendation is a stiff hip. The same holds true of osteoarthritis, if there is little prospect of continued function. If there is such prospect he advocates no operation. In old fractured neck where the head is in such

shape that it may perform a part of its function it should be left.

Cotton's (*Surg. Gyn. & Obs.*, Sept. 1927) summary of his cases of fractured neck of femur treated by artificial impaction should be given careful attention by those interested in the treatment of fractured hips. His arguments for this method are sound.

Two operations for fusion of the sacroiliac joint have been recently published. Campbell's (*Surg. Gyn. & Obst.*, Aug. 1927) is described as extra articular, being an arthrodesis behind the joint between the ilium and sacrum. Gaenslen's (*Jour. A. M. A.*, Dec. 1927) procedure is an intraarticular procedure after splitting the ilium into two "plates" over the joint. Both of these procedures are sound and apparently satisfactory surgical procedures. What is far more necessary than new operations to fuse the sacroiliac joint is sounder methods of determining when such fusion should be done.

Ober's operation for relief of gluteus maximus paralysis (*Jour. A. M. A.*, Apr. 2, 1927) is a modification of the Legg and Lange operations, with the advantage over the latter that living autogenous fascia is used to connect the freed attachment of the outer half of the erector spinae muscle to the femur at the site of attachment of the gluteus maximums. The stabilization given these patients in standing and the relief from contracture of the fascia is marked.

Riedel (*Zentr. f. Chir.*, March 5, 1927) reports a new method of transplant for relief of paralysis of the serratus anterior muscle. Splitting off the outer half of the longissimus dorsi he pulls it through the inner half and attaches it to the lower edge of the scapula as well as the sixth, seventh, and eighth ribs. Such a procedure, if effective, offers a real surgical help, as the cases of paralysis of the serratus have been serious where permanent.

Mayer, L., (*Jour. Bone & Joint Surg.*, 1927 IX 412) advocates transplant of a portion of the trapezius together with a fascia transplant as tendon to replace paralyzed deltoid muscles. He states that to secure a satisfactory result the trapezius, the serratus magnus, and either the pectoralis major or the biceps must be active. Of six cases done thus far four have shown improved function.

Cleveland (*Archives of Surg.*, June 1927) found in a study of end results in 200 cases of hallux valgus that the best results were obtained by resection of the metatarsal head together with removal of the exostosis. On the other hand, Pick (*Archiv. f. Orthopadie* 1926, Vol. 24, No. 2) in a study of 28 cases thought the best results were obtained with Ludloff's operation (oblique osteotomy of the first metatarsal bone) and Holmann's operation (wedge osteotomy and transplant of abductor hallucis) and that less satisfactory results came from excision of the metatarsal head.

Such reports only serve to show the wide variation in procedure. It comes down to a question of care in doing whatever procedure is best in that particular operator's hands.

Abbott's (*Jour. Bone & Joint Surg.*, Jan. 1927) work on lengthening of the tibia and fibula is new and promising. His apparatus consists of two steel transfixion pins and adjustable rods so fixed to a Thomas splint that absolute control of the fragments is obtained. Gradual adjustment maintains stretching at the rate of 1/16″ to 1/8″ per day. Of six cases treated five are successful with a maximum gain of 1 7/8″.

Silver's operation for relief of joint contractures (*Jour. Bone & Joint Surg.* IX, 1927) by stripping of the capsule from the bone on the contracted side of the joint is applicable to a great number of cases of persistent troublesome joint contractures.

The operation described by Armitage Whitman (*Jour. A. M. A.*, Dec. 24, 1927) for scoliosis with severe posterior deformity of the thorax is promising. He resects portions of the most prominent ribs and uses these as grafts to the spine. In nine cases thus treated the author feels that the constitutional improvement has been such as to warrant the procedure, as well as the improvement in the patient's appearance.

OSTEOMYELITIS

Little has been done on osteomyelitis during the scope of this review. Two articles, however, deserve mention. Thornton, L., (*Surg. Gyn. & Obs.*, Sept. 1927) describes an operation for the treatment of infected compound fractures of the tibia. After resecting the diseased area a large sliding graft is used to fill in the diseased area. The same author (*Jour. Bone & Joint Surg.*, Apr. 1927) describes an operation for the treatment of osteomyelitis of the lower end of the femur. Success in both of these procedures must depend on the care used in selecting patients for the operation, and in the detail of the technique.

SEVERAL DISEASES OF THE SKELETON

Under the title "Some General Diseases of the Skeleton" Fairbank, H. A. T. (*British Jour. of Surg.*, July 1927, Vol. XV, No. 57) has summed up our present knowledge of these diseases. His classification is as follows:

General Affections of the Skeleton

Congenital Developmental Errors

- Osteogenesis Imperfecta
- Diaphyseal Aclasis
- Dyschondroplasia
- Achondroplasia
- Craniocleidodysostosis
- Ateleiosis
- Myositis Ossificans Idiopathica

Errors of Metabolism

- Scurvy
- Rickets
- Renal Dwarfism

Dwarfism Associated with

1. Cardiac Disease
2. Pancreatic Disorder
3. Hypertrophic Cirrhosis of Liver

Endocrine Errors
- Gigantism
- Acromegaly
- Mollities Ossium
- Osteomalacia
- Dwarfism and Infantilism of various types

Affections of Unknown Origin
- Fibrocystic Disease
- Leonitis
- Multiple Neoplasms
- Osteitis Deformans
- Arachnodactylis

Von Hazel and Andrews (*Surg. Gyn. & Obs.*, July 1927) writing on the subject of osteitis deformans have concluded that an internal glandular disturbance must exist. Due to an increase in the secretion of the parathyroid gland there is an increase in the permeability of the tissues which entails an inability of the osseous structures to retain their calcium. All of the cases studied show a positive calcium balance. The authors note that Parriere and Costeo (*Compt. Rend. Soc. de Biol.*, 1589, XCV, 1926) have identified changes in the parathyroids which they believe to be pathognomonic of hyperfunction. Also Mande (*Zentralb. f. Chir.*, 1927, 1:257) has removed parathyroid tumors in a case of Paget's disease and brought about improvement.

Bird, C. E., (*Arch. Surg.*, 1927, XIV, 1187) has collected five cases where sarcoma developing in bone affected with Paget's disease has been verified pathologically and four others not verified. He believes that the incidence of sarcoma in Paget's disease is about one in ten.

Knaggs, R. L., (*British Jour. of Surg.*, July 1927, XV, No. 57) has reviewed the subject of achondrophasia (chondrodystrophia foetalis) in a most admirable article. His description of the gross and microscopic anatomy is important. He points out the difference between this condition and osteogenesis imperfecta, at the same time showing that the conditions may perhaps exist in the same case. He sums up the arguments as to its causation, but points out that "until miscroscopic investigation decides the nature of the ossification process at the epiphyseal lines" this question will remain unsettled.

Brockman, E. P., (*British Jour. of Surg*, XIV, No. 56, 1927) shows changes in the long bones occurring in three cases of chronic interstitial nephritis in children, together with a pathological study of the bone from one of these cases.

His findings are summarized as follows:

1. The shafts of the bones in renal rickets are straight and the deformities are due to separation and displacement of the epihyses . . .
2. The red marrow is replaced by a fat marrow, more advanced in some bones than in others.
3. There is very little bone formation.
4. There is active bone absorption by osteoclasts.
5. Replacement of the absorbed bone by fibrous tissue.
6. Thickening of the walls of the arteries in the medulla with degeneration of the endothelial cells lining them.
7. An increase in the number of capillaries in the region of the growth disc as compared both with normal and with rickets.

VASCULAR DISEASE

While this subject may not strictly be called orthopedics, yet, on account of its very vital importance, these three articles reviewed below are included.

Senique (*Presse Medicale*, April. 9, 1927) reviewing the work of a Russian surgeon Herzburg of Oppell, and of his own cases where suprarenolectomy was performed for spontaneous gangrene of the extremities concludes that the operation based purely on hypothesis did not receive clinical confirmation.

Allen (*Bost. M. & S. Jour.*, Aug. 25, 1927) summarizing his results on circulatory diseases of the extremities treated by periarterial sympathectomy concludes that "in cases with adequate circulation, with vasomotor and trophic disturbances of short duration, where proper protection can be given afterwards it may be justifiable." He feels that the operation combined with the Ramisectomy of Royle or the latter operation alone are perhaps more effective.

Brown, G. E., and Henderson, M. S., (*Jour. Bone & Joint Surg.*, Oct. 1927) have summarized in an excellent paper the present knowledge of arterial vascular diseases of the extremities. Their classification is as follows:

FUNCTIONAL TYPES OR VASOMOTOR

Local Distribution
- Vasoconstricting Types
  1. Multiple phase color reaction, (Raynauds).
  2. One phase color reaction — acrocyanosis, dead finger, local syncope.
- Vasodilating Types
  - Erythromelagia

General Distribution
- Vasoconstricting
  - Primary or essential hypertension, early stages.
- Vasodilating Types
  - Primary or essential hypertension.

ORGANIC TYPES

Local Distribution
1. Arteriosclerosis, with or without thrombosis:—diabetic gangrene.
2. Thrombo angitis obliterans.
3. Simple thrombosis or embolism.
4. Arteritis of known infectious origin (rheumatic, syphilitic)
5. Aneurysm with or without thrombosis.

General Distribution
- Arteriosclerosis
  1. Primary
  2. Secondary to hypertension.

They review the treatment of these conditions. Nothing new is offered, but an excellent brief summary on present methods is given.

POLIOMYELITIS

This subject has been of much interest to all of us because of the late epidemic in Massachusetts. What may come of the studies during that epidemic remains to be seen.

Luther (*Boston M. & S. Jour.*, Dec. 22, 1927) has given an up-to-date summary of the facts known regarding diagnosis in the early stages of the disease, and particularly points out that the non-paralytic and paralytic cases are alike in their onset and no one can tell in the pre-paralytic stage which type the case may belong to.

Rosenow and Nickel (*Am. Jour. Diseases of Children*, Jan. 1927) report the results of 1,113 cases of anterior poliomyelitis treated with poliomyelitis antistreptococcus serum. There were also 278 control untreated cases. They state that the mortality rate and the incidence of residual paralysis are lower in the treated cases than in the control, but qualify this statement by saying especially when treated early. They feel, however, that they are justified in concluding that their poliomyelitis antistreptococcus serum is of value in the treatment of acute anterior poliomyelitis.

MISCELLANEOUS

Mayer, (*Jour. A. M. A.*, July 30, 1927) summarizes light treatment in tuberculosis as follows:—

"Light in any form by itself is not curative but comprises only one of the important adjuvants in the treatment of tuberculosis. To believe that sunlight or artificial sources of light will cure all forms of "surgical" tuberculosis: to be unduly optimistic about this treatment and to consider it a specific form of treatment: to use it without some medical guidance and adequate equipment, and, finally, to employ it to the exclusion of rest and the hygienic dietetic regimen, eliminating orthopedic measures or the occasional necessary surgical intervention in bone and joint tuberculosis, is bound eventually to dishearten many sufferers, and to bring discredit on an otherwise eminently desirable method of treatment."

King, J. M., Jr., and Holmes, G. W., (*Am. Jour. Roentgenology*, 1927, XVII, 214). Out of 450 cases reviewed where shoulder X-rays were taken 300 were negative. 97 showed fractures or dislocation, 20 arthritis, 13 subacromial bursitis, and the remainder, lesions of less frequent occurrence. The authors, in discussing the causes for frequent negative X-ray findings point out that many cases having shoulder pain in reality have a referred pain, and also that many conditions that affect the shoulder do not produce changes, and also that various positions for taking X-rays of shoulders are advantageous.

In an article entitled "Shoeing Problems and the Human Foot," Painter (*Boston M. & S. Jour.*, Aug. 18, 1927) discusses the modern shoe. He describes what he considers adequate shoes and points out that while children's and men's shoes are for the most part fairly satisfactory, women's shoes are the great problem.

Morton and Stabins (*Annals of Surgery*, Sept. 1927, and *N. Y. Med. Jour.*, Nov. 1, 1927) report experiments on the subject of osteogenesis. By tying the saphenous vein in dogs they got delayed union in fractured and resected fibulae. However when the deep veins were ligated the union was not delayed, but took place with more bone production than on the control side. They have not been able to satisfactorily explain their results, but point out that these experiments tend to confirm the work of Burrows who found that the essentials for growth are a retarded circulation and a diminished oxygen tension.

This is of great interest, and further reports of these experiments should shed some light on non-union or delayed union in fractures.

FIFTH INTERNATIONAL MEDICAL CONGRESS OF INDUSTRIAL ACCIDENTS AND OCCUPATIONAL DISEASES

The Fifth International Medical Congress for Industrial Accidents and Occupational Diseases is definitely announced to be held in Budapest, Hungary, September 2-8, 1928. National committees have been formed in the principal countries.

Since the first American announcement of December 1st, 1927, Dr. Fred H. Albee, New York City, and Dr. Emery R. Hayhurst, Ohio State University, Columbus, both members of the Permanent International Committee, have been appointed Joint Chairmen of the National Committee for the United States, and have appointed Dr. Richard Kovacs, New York City, as Secretary, and the others named in the letterhead to serve as members.

The Travel Study Club of American Physicians, of which Dr. Albee is President and Dr. Kovacs, Secretary, has rearranged its summer trip for 1928 especially to focus upon the Budapest Congress. Those who have already indicated their intention of attending the Congress and others are invited to join the Travel Study Club either for the entire trip or at any point. The itinerary thus far arranged calls for sailing from New York on the S. S. "Munchen" of the North German Lloyd, on August 16th: three days in Berlin, two days in Carlsbad, five days in Budapest, two days in Vienna, two days in Bad Reichenhall and Salzburg, and two days in Munich; then via Milan to Nice for two days and from Septemper 17th to 27th in Spain; sailing from Gibraltar on September 28 on the S. S. "Conte Grande" of the Italian Mediterranean Service, due back in New York on October 5th.

Correspondence regarding the trip should be had with Dr. Richard Kovacs, 223 E. 68th Street, New York City.

THE SUPERINTENDENT OF THE VETERANS BUREAU HOSPITAL AT RUTLAND WILL REMAIN

Dr. Henry L. Stickney will continue as Superintendent of the Veterans Bureau Hospital at Rutland.

Complaints were submitted to the Director Frank T. Hines, alleging that his service had not been satisfactory. Nothing affecting the integrity of Dr. Stickney has been shown and reports in the papers indicate that the Director found occasion for no other actions than giving advice pertaining to minor details.

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 14031

RECURRENT ASCITES

MEDICAL DEPARTMENT

First admission. A widowed English cook sixty-six years old entered March 27 for enlargement of the abdomen of ten months' duration with loss of weight and strength. She had been a steady user of considerable alcohol.

The family history is irrelevant. Her past history is negative. She had always had the finest of health.

Clinical examination. Poorly developed and nourished. Apex impulse of the heart seen and felt in the fourth space outside the nipple line, 12 centimeters from midsternum. Action slightly irregular. Over the precordia, loudest at the pulmonary area but heard also at the apex and to the right of the sternum, a soft systolic murmur. Pulmonic second sound greater than aortic second, slightly accentuated, although the aortic second was sharp, clear and rather ringing. Pulses slightly irregular, of fair quality. Artery walls showed well marked fibrous thickening and tortuosity. Blood pressure 145/83, 130. Right cornea opaque. Neither pupil reacted. Abdomen: girth 115 centimeters. Fluid wave. Marked prominence of superficial veins.

March 27 an abdominal tap gave 2½ gallons of straw colored, very slightly turbid fluid, specific gravity 1.010, albumin ¼ per cent., 93 per cent. lymphocytes, 7 per cent. polymorphonuclears, many epithelial cells; culture, no growth; guinea pig test negative. April 6, 5,100 cubic centimeters of similar fluid was withdrawn, and April 27, 6,720 cubic centimeters more. After the first tap a smooth hard liver was felt two fingerbreadths below the costal margin. The spleen was not felt. The patient showed great improvement after the taps. A Wassermann was negative. At the end of five weeks she was discharged slightly relieved.

Second admission. June 2, five weeks after her discharge, she returned because of recurrence of the ascites.

Clinical examination showed an emaciated woman with cataracts of both eyes. Pupils irregular. Apex impulse of the heart felt in the fifth space 11 centimeters from midsternum in the midclavicular line, corresponding with the left border of dullness. Action regular, not rapid. Sounds of good quality. First sound at the apex reduplicated. A very soft blowing systolic murmur at the apex, not transmitted. Pulmonic second sound equal to aortic second, with slight accentuation. Systolic blood pressure 150. Artery walls thickened and tortuous. Dullness with many medium moist râles at both bases behind. Tremendous abdomen, girth 112 centimeters. Umbilicus dark purple, protruding. Leukocytes 11,000 to 14,000, slight achromia.

An abdominal tap gave 13,440 cubic centimeters of fluid similar to that of the previous taps. After the tap the liver edge was palpable just above the costal margin. June 14 the patient was discharged.

History of interval. After leaving the hospital she was up and about feeling quite well, although her abdomen continued to increase in size.

Third admission, July 5, three weeks after her last discharge.

Clinical examination. (As before except as noted.) Apex impulse of the heart not seen or felt. Left border of dullness in the fifth space 10 centimeters from midsternum in the midclavicular line. No enlargement to the right. Action regular, not rapid. Sounds of fair quality. No murmurs. Pulmonic second sound less than aortic second, which was slightly accentuated. Systolic blood pressure 143. Artery walls slightly thickened, not tortuous. Slight dullness at the bases of the lungs, where breath sounds, voice and fremitus were slightly diminished. A few fine moist râles at the right base. Abdomen tense. Circumference 112 centimeters. Fluid wave. Moderate umbilical hernia. Very small enlarged superficial veins on sides of abdomen and chest. Slight edema of the abdominal wall above the pubes. Liver dullness from the fourth space, joined the abdominal dullness. Reflexes normal. A raised translucent blister on the left ankle. Numerous small dilated venules on the thigh. Considerable edema of legs, ankles and back.

Amount of urine normal, specific gravity 1.020 at two examinations, the slightest possible trace of albumin at one, very many leukocytes in the sediment of both specimens (no catheter specimen), no red cells.

The day of admission 33 pints of ascitic fluid was withdrawn, and July 14 18 pints. The patient failed steadily, with no evidence of localized complication. July 16 she went into coma. July 17 she died.

DISCUSSION

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

Of course we must not let that previous history of using alcohol prejudice us in assuming that this is cirrhosis of the liver. It may well

be that. All we know is these two facts, enlargement of the abdomen and the use of alcohol.

We could hardly use this case in a temperance lecture, because at sixty-six she had the finest of health in spite of that history of the use of alcohol.

NOTES ON THE PHYSICAL EXAMINATION

We should not pay any attention to the cardiac impulse being outside the nipple. The heart was presumably pushed up by whatever was in the abdomen. Of course the heart is very often pushed up, swung on its pivot at the base so that the apex would go out farther than it should. It ought to be distinctly outside the nipple without being enlarged, since the diaphragm is high. It may turn out that there are other reasons in the heart for its going to the left. But if the abdomen is notably large it may well be that the heart is not.

I feel that this question of the loudness of the second sound is not so important as we used to consider it. It is not very important whether the pulmonic second sound is louder than the aortic second or the aortic than the pulmonic. In the first place they vary at different ages. In childhood the pulmonic is louder; as you get towards advanced life it is the other way. I do not think it is at all certain that the sound we hear on the left side of the sternum is always the pulmonic second. I have seen cases in which I thought it was the aortic second sound which was heard best on the left side of the sternum. I think it is of little interest. In the first edition of my Physical Diagnosis I laid great stress on the accentuation of the pulmonic second in connection with mitral disease. But there are a great many cases of mitral disease that do not have it. Doubling of the second sound is of far more value as a sign of mitral disease than accentuation. The doubling of the second sound, especially at the apex, is not an important symptom at all. We cannot bank on it; but we can bank on it more than on accentuation. Accentuation of the aortic second sound is what we ought to get in hypertension and arteriosclerotic aorta. Often we do, often we do not. If we are counting on it for confirmation of a doubtful diagnosis we are apt to lean too heavily on it. It is a weak support in contrast with more reliable things such as Corrigan pulse, which is a very reliable sign as things go. If you feel it in a cardiac case it usually proves aortic regurgitation.

We can have tremendous arteriosclerosis in the arteries of the heart and relatively little in the other arteries of the body. I do not believe anybody knows why it is sometimes localized in one part of the body, why we sometimes find a tremendous lot in the renal arteries, sometimes in the coronary arteries, sometimes in the arteries of the arm. We cannot assume because it is present in the brachials that therefore it is present also in the heart or elsewhere.

The fluid wave is a very reliable physical sign.

Two things are making us think of ascites and probably cirrhosis.

In general the study of the sediments from abdominal taps has yielded extraordinarily little information so far as I can remember. There is value in knowing whether we have high or low gravity fluid. When we get fluid with a gravity of 1.018 to 1.030 it makes us think of tuberculous peritonitis or a condition secondary to malignant disease. We get a gravity like this in disease of the heart, kidney or liver. Under the conditions present here it is very likely liver. The question of the cell count in abdominal fluid is entirely different from that in spinal fluid, in which it is very important. It does not make any important difference that I know of in an abdominal tap.

The chief thing to notice is that she is accumulating that fluid very fast. That has a real diagnostic significance. The fluid accumulates slowly in tuberculous peritonitis. Tapping tuberculous peritonitis cures not the tuberculosis, but the ascites. Often you can tap once and never tap again. In general obstructive ascites due to malignant disease or cirrhosis of the liver, fluid comes back quickly, as this does.

(Second admission.) I should like to be sure that there were not cataracts in both eyes before. They may have been looking with more care this time. A reduplicated first sound at the apex is a useless sign. We get nothing out of knowing it.

The protrusion of the umbilicus is significant of ascites. It should be a real depression, not a mound.

In general we have this history of a patient's coming back again and again to be tapped in only one disease. They do that until they get so weak that they do not go out. In malignant disease we should not generally find that the patient is strong enough to come back again often for tapping. This is the ordinary history of cirrhosis of the liver.

You may believe if you like that those artery walls have changed since the last time, but I do not.

The umbilical hernia has increased from what it was before. It is a question of degree.

The blister on the ankle was presumably due to edema forcing the skin up.

DIFFERENTIAL DIAGNOSIS

The best way to take up the case is to list the usual causes of ascites. They are: (1) heart disease, (2) kidney disease, (3) cirrhosis of the liver; (4) tuberculous peritonitis; (5) malignant disease with obstruction. You can go on indefinitely, but those are the only common causes. We can rule out all but one. If she had had malignant disease we ought to have felt some lump somewhere. The character of the fluid rules out tuberculous peritonitis. There is

no evidence of cardiac or renal disease. It ought to be cirrhosis of the liver.

Rarer causes of ascites are pernicious anemia or some other rare types of blood disease. In leukemia also we get ascites now and then. Ascites does not include septic peritonitis from any source. Pus is not ascites, so we will not consider it. Banti's disease is not cirrhosis of the liver, but distinct from it, though it is sometimes included under it. Filaria gives a chylous ascites. Blocking of the portal vein or its radicles gives ascites. Acute toxic hepatitis,—or as we used to say acute yellow atrophy,—or subacute or chronic toxic hepatitis, all may be associated with ascites. Intestinal obstruction in quite a proportion of cases makes serum collect in the abdomen. None of these things are common or important. None of them seems to belong here.

What does the diagnosis of cirrhosis rest on? First, on the exclusion of the other common causes of ascites. Second, on the presence of enlarged superficial veins of the abdomen and chest. Thirdly, on an alcoholic history, which in spite of all jokes still holds as an important element in the etiology of these cases. What important symptoms or signs are absent? She never vomited blood. That does not prove that it is not cirrhosis. We do not feel the spleen. If our diagnosis is correct the spleen ought to be enlarged, and we have to say that there was something peculiar about the examiner or about the patient whereby her spleen was not felt.

A STUDENT: The decrease in the size of the liver under observation,—is that a sign?

DR. CABOT: No, I have never seen it. I have often thought I ought to see it. I have often followed cirrhosis of the liver expecting to see it. I do not know why not, but you do not see it. I have seen post mortem very small livers, normal sized livers and very big livers with cirrhosis. We say early it is big, later small; but I know no case on record which has been followed in which the liver got smaller as the case got worse.

STUDENT: At first it is two fingerbreadths below the ribs and later at the border.

DR. CABOT: They did not say anything about the upper border in the early examination. We have got to be shown that the conditions are just the same as to the amount of ascites present. But this may be a case in which one says the liver got smaller. It will not surprise me at all if Dr. Mallory says it was big.

A STUDENT: Can you rule out nephritis?

DR. CABOT: The urine is enough I think to rule out nephritis.

A STUDENT: How frequently do you have jaundice?

DR. CABOT: I think about thirty-three per cent. of the cases have it. Most cases do not have it.

A STUDENT: Wouldn't you expect more of a constitutional reaction with cirrhosis?

DR. CABOT: Do you mean, isn't it queer the duration was not greater? We do not expect these patients to feel sick. Often they feel very well. We cannot draw any conclusions from her not feeling sick.

A STUDENT: Is the leukocyte count of 14,000 normal?

DR. CABOT: No, I believe not. But she had been tapped several times. That would be enough to account for it.

A STUDENT: Do you think it is syphilitic cirrhosis?

DR. CABOT: No, not so far as I know. There may be a syphilitic lesion in another part of the body, but I do not know the difference clinically between syphilitic cirrhosis and any other kind.

A STUDENT: How do you explain the loss of weight and strength?

DR. CABOT: Think of the amount of valuable fluid taken out every time a tap is taken. That is a great drain.

A STUDENT: What was the immediate cause of death?

DR. CABOT: I cannot say. We say exhaustion, cachexia. It is simpler merely to say she died. We do not know. In some cases there is a definite nervous element, definite evidence that the brain is poisoned by toxins which are not excreted through the liver, some evidence of "cholemia"; but there is no reason to think it here. Why she died now rather than next year is a very proper question, but I cannot answer it.

A STUDENT: Do you think the patient showed anemia?

DR. CABOT: The only record I have before me is 55 per cent. hemoglobin. Most cases do show anemia. It is a perfectly probable thing to expect.

A STUDENT: What was the cause of the absence of eye reflexes?

DR. CABOT: A good many people at that age do not have eye reflexes. The pupils become stiff. I cannot go further into it than that.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Cirrhosis of the liver.
Ascites.
Slight general edema.
Decubitus.

DR. RICHARD C. CABOT'S DIAGNOSIS

Cirrhosis of the liver.
Ascites.
Chronic passive congestion of the spleen.

ANATOMIC DIAGNOSES

1. *Primary fatal lesion.*

   Toxic cirrhosis of the liver.

2. Secondary or terminal lesions.

   Ascites.
   Chronic passive congestion of the spleen.
   Arteriosclerotic degeneration of the kidneys.
   Edema of the left lower extremity.

3. *Historical landmarks.*

Slight chronic pleuritis.
Slight arteriosclerosis.
Emphysema of the lungs.
Chronic hyperplasia of the spleen.
Small fibroma of the uterus.
Scoliosis.

DR. TRACY B. MALLORY: The patient had an atrophic cirrhosis of the liver, which weighed 975 grams and was markedly adherent to the diaphragm and omentum. The surface was finely hobnailed, the general consistency greatly increased, and there was very evident fibrous reticulum surrounding islands of liver tissue. Microscopically it showed complete destruction of the normal lobular arrangement, and very marked fibrosis. It was not infiltrated with fat, as the vast majority of the so-called alcoholic livers are. I have not been able to find any alcoholic hyaline in the sections, although the hematoxylin and eosin stain done at this time is not the most suitable one for determining this type of cellular degeneration. The spleen, as Dr. Cabot predicted, was slightly enlarged, 231 grams, about 100 grams above normal. The kidneys were somewhat small and microscopically did show a trace of glomerulonephritis, nothing of very great significance, however.

The heart was small. It weighed 193 grams. The valves, myocardium and coronary arteries were entirely negative.

DR. CABOT: How much arteriosclerosis was there?

DR. MALLORY: There was very slight arteriosclerosis in the aorta, a considerable amount in the larger branches of it. The renal arteries are not mentioned.

CASE 14032

AN ACUTE INFECTION WITH BLOODY FLUID IN THE RIGHT PLEURAL SAC

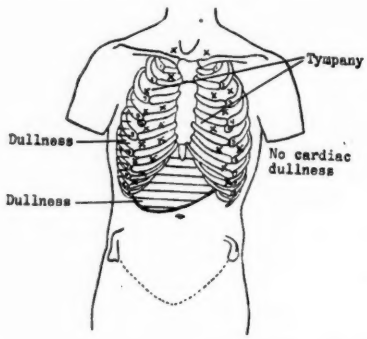
MEDICAL DEPARTMENT

An Irishman twenty-eight years old, an operative in a hair factory, came to the Accident Room June 24, 1907, for relief of an acute pulmonary condition. He was too weak to give a satisfactory history.

He was in fair health until a week before admission. Then he had malaise, pain in the legs and generalized all over the body, headache, vomiting, fever and cough. Since that time he had been in bed ill, short of breath and in much pain. The morning of admission the pain settled in his abdomen, shooting at times into his throat. For the past three hours he had been very short of breath. His bowels were costive.

There is no past history except malaria five years before admission.

Clinical examination showed a fairly nourished man looking extremely ill, with cold and sweating skin and extremities. There were no enlarged glands. The apex impulse of the heart was not seen or felt. The cardiac dullness was not made out. The heart sounds were barely audible just inside the nipple. No murmurs were heard. The pulses were equal, regular, synchronous, of poor volume and tension. The artery walls were not palpable. The right chest moved less than the left. The latter sagged a little. The lung signs changed a great deal with change in position. Respiration was harsh over the whole left chest, with prolonged expiration. There was no dullness or change in fremitus except in the midaxilla, where at times there was dullness. Over the whole chest were many coarse and medium moist râles. With the patient lying on his back there was tympany over the right chest from the midaxillary line to the edge of the ribs and to the median line, obscuring the liver dullness. There was dullness in the axilla as shown in the diagram. With the



patient on his left side the dullness in the right axilla was replaced by tympany, and dullness appeared over the liver in front to the fourth rib and to the lower right back. There was neither bronchial breathing nor change in fremitus. Scattered over the whole right chest were many medium and coarse moist râles. The abdomen was normal except for the dullness shown in the diagram. The liver boundaries were not made out. The external genitals, pupils and reflexes were normal.

Urine not obtained. Blood: hemoglobin 95 per cent., leucocytes 28,000. Widal negative. Vomitus; guaiac strongly positive.

Temperature 98° to 101.6°, pulse 92 to 107, respirations normal.

The right chest was tapped and 60 ounces of slightly cloudy blood tinged fluid withdrawn, alkaline, specific gravity 1.016, albumin 2.5 per cent.; smear, no bacteria found; in a count of 200 cells, 60 per cent. polynuclears, 33 per cent. endothelial cells, 7 per cent. lymphocytes, a few cells resembling plasma cells; all cells in a good state of preservation. A culture was made but was not reported before death.

Stimulation had no effect on the heart. The patient soon died of cardiac failure.

Discussion

BY WILLIAM PEARCE COUES, M.D.

NOTES ON THE HISTORY

This would seem an acute infection that did not appear from this history to be perhaps completely localized.

Evidently this patient was in a state of more or less shock from his acute infection, whatever that was.

The blood pressure is not recorded.

NOTES ON THE PHYSICAL EXAMINATION

The lung signs show fluid there of some sort, due to his sudden illness. In other words, there were shifting signs in the chest, indicating fluid that was not fixed or encapsulated.

With an apparent acute infection such as this, from his white count we might argue that his response to the infection was pretty good, but that is belied by our clinical findings higher up. He was too sick.

A negative Widal at this stage certainly would not mean much to us in excluding a typhoid infection, with respiratory symptoms, marked in the beginning. It is too early.

If this vomitus was direct from his stomach without admixture of sputum on the way up it seems as if that should mean something definite in relation to this acute infection, whatever it was. The lung signs, such as they are, fluid and then a strongly positive guaiac, seem to indicate something going on below in combinations which probably connote something rather out of the ordinary. With all that seeming trouble in his lungs his respirations are normal. There seems to be fluid there. There does not seem to be consolidation, and that is a point in favor of there being nothing further in his chest in the way of a pneumonia.

DIFFERENTIAL DIAGNOSIS

We have a man coming in with a short history, intensely ill, with signs of more or less shock and signs in his lungs indicating fluid, which it seems had not been there for a very long time. As we go over the very first part of the history we note his occupation, an operative in a hair factory. I think Dr. Lord will say that in certain cases, perhaps influenzal pneumonia of the type that was seen in this hospital and elsewhere in 1917 and 1918, or an influenza bronchitis might give symptoms similar to these. But we have something in the stomach if that guaiac was positive, which we would not be apt to get in those cases. If one were in a country where there has been plague—there has been plague in California—with such a fulminating, overwhelming infection, with those signs, I should imagine that bubonic plague might give similar symptoms.

Dr. Lord has said that he would be glad to say a few words about this unusual case.

Dr. Frederick T. Lord: Regarding the history it would be desirable to know the characteriation of his pain, to know if with the cough there was any sputum. The physical examination suggests, as already noted, the presence of fluid in the right chest. One might go further, however, and say that it also suggests the presence of air, because one does not expect to have such obvious shifting of fluid alone. The amount of shifting which occurs in fluid alone in the pleural sac is not sufficient to enable one readily to determine the change by physical signs, whereas when there is both air and fluid there is a very marked shifting. One would not expect, however, in the presence of air and fluid to have the fremitus normal. We should like also to have his temperature chart. It would be desirable, of course, to know the result of culture of the fluid. It would be desirable to have an examination of the sputum, the results of the blood culture, and if the patient were seen today undoubtedly there would have been an X-ray and the problem would have been partially solved. But with the data at hand it does not seem to me possible to go further than to say that he has an acute respiratory infection, with bronchitis and pleurisy with effusion, with questionable pneumothorax and pneumonia.

Dr. Coues: I wonder if anybody after simply reading over the first two lines and a half wishes to commit himself to a tentative diagnosis?

A Physician: Does not the inhalation of the dust in a hair factory give rise to tuberculosis, even to other illness?

Dr. Lord: Any dust contaminated with tubercle bacilli may cause tuberculosis. The inhalation of dust alone may give rise to a condition which we call pneumonoconiosis, but not to this picture and desperate illness.

BACTERIOLOGICAL REPORT

Culture from the chest fluid showed anthrax bacillus.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Pneumonia?
Bronchitis.
Pleural effusion.
Cardiac failure.

ANATOMIC DIAGNOSES

1. *Primary fatal lesions.*

Septicemia, bacillus of anthrax.
(Pulmonary anthrax.)
Areas of hemorrhagic necrosis in the trachea and lungs.
Acute adenitis of the tracheal and bronchial lymphatic glands with hemorrhagic necrosis.

2. *Secondary or terminal lesions.*

Hydrothorax.
Soft spleen.
Small infarct in right kidney.

Dr. Tracy B. Mallory: Both pleural cavities were found to contain slightly hemorrhagic fluid. The presence of air is not mentioned, however. The pericardial fat was found to be diffusely infiltrated with a thin slightly bloody fluid and there was a tendency in some of these areas to blackish discoloration. The bronchial and tracheal lymph glands were greatly increased in size. One mass just below the bifurcation of the bronchi densely matted together measured six by three by three centimeters, a huge mass that one could hardly imagine in anything except a tumor or tuberculosis. The trachea and bronchi showed hemorrhage, inflammation, with also areas of blackish necrosis. The lungs were free from actual consolidation, but many minute irregularly shaped reddish black areas were found scattered throughout them. The heart, liver and spleen was negative. The right kidney showed a small infarct.

Microscopic examination of the pleural fluid removed while the patient was alive showed a great many large Gram-positive bacilli, few of which contained spores. They had very definite capsules. That is the typical appearance of anthrax in body fluids, and further cultural characteristics confirmed the diagnosis.

At necropsy the hemorrhagic exudate in the pericardial fat, the exudate in the trachea and bronchi and in the lungs themselves showed very numerous anthrax bacilli. The stomach was said to be normal.

Dr. Young: Is there anything besides a fulminating sepsis and anthrax which would give this picture?

Dr. Lord: Plague.

Dr. Young: Did you ever see plague in Boston?

Dr. Lord: No, I never have. The intensity of the disturbance and the presence of pleural fluid in a hair worker should suggest anthrax. The condition however has become so rare that one is likely not to have the proper suggestion come to him.

Dr. Coues: This is a very unusual case, the only one of pulmonary anthrax in this hospital. It is too hard for anybody. The point is that recent literature and studies are not common. A man seized with such symptoms as this man had, with the history of being an operative in a hair factory, brings up the question whether it is not anthrax, and whether the patient should not be given large doses of antianthrax serum and his life perhaps saved.

I will speak briefly on another case which it will be seen has a bearing on the subject.

CASE 14033

AN INFLAMMATORY LOCALIZED LESION ON THE FACE WITH MARKED EDEMA

Surgical Department

A man of fifty, a rag-worker, entered April 23, 1901.

Four days before admission he noticed a small pimple on his right cheek. The following day there was slight swelling but no pain. It had been treated with local applications. The day before admission the whole right side of his face was much swollen and the eye partially closed. He still had no pain and no constitutional symptoms.

On clinical examination the whole right side of the face was much swollen, the edema extending to the neck. The eye was closed. In the center of the cheek was a small pustule covered with moist crusts. The heart and lungs were negative.

A cover glass preparation made from the serum which exuded from the lesion on the cheek was found to contain very many large bacilli. Some of these had well marked capsules and some of them appeared to be composed of shorter segments separated by narrow intervals. The ends of these segments in some instances were square and not rounded off.

A culture on blood serum made from the exudate on the surface of the lesion and from some dried serum in the neighborhood showed after twenty-four hours a confluent growth covering the surface of the medium. In a dilution tube made at the same time many colonies were present, consisting chiefly of two kinds. One kind was large, grayish, finely granular and dry. The other kind of colony was smaller and whiter and resembled the colonies of cocci.

On the surface of each of two blood serum tubes inoculated with material obtained from the operation wound a moderate number of large colonies developed. These colonies were large, grayish, finely granular and dry. Microscopic examination of one of these colonies showed large bacilli appearing generally as chains of short segments, often square ended.

Operation was done the day of admission. In the afternoon the pulse began to go to pieces. The patient still had no pain, but was somewhat nauseated. He was given strychnia, subpectorals and brandy, and rallied slightly. At midnight the pulse rate had increased to 110 and the pulse had gone all to pieces. The respiration was somewhat labored. The edema had extended down the neck. He vomited several times. He went from bad to worse and died the following morning.

Discussion

BY WILLIAM PEARCE COUES, M.D.

This is too much swelling for an ordinary pimple. As a rule ordinary boils and small furuncles do not give such edema as this. The edema extending to the neck is another unusual thing which would put us on our guard.

We should like to know a little more about that pustule if we could. If they had told us that there was a crater in that pustule with a black eschar in the crater we should be pretty sure to make our diagnosis of anthrax, and any-

how we would have a culture and a smear before anything was done.

These bacilli were similar to those that Dr. Mallory told us about in the lung.

BACTERIOLOGICAL REPORT

The large grayish colonies grown from the exudate on the surface of the lesion had the appearance of colonies of the anthrax bacillus.

PRE-OPERATIVE DIAGNOSIS

Anthrax.

OPERATION

Gas and ether. The face was quickly scrubbed. The pustule with about an inch and a half margin of skin and subcutaneous tissue was rapidly dissected out. The surface was cauterized with the actual cautery. A large sulphonapthol poultice was applied to the face. The patient was sent to the ward in good condition.

BACTERIOLOGICAL REPORTS

The colonies grown from material from the wound had the appearance of colonies of the anthrax bacillus.

A brown mouse inoculated subcutaneously at the root of the tail with a portion of one of the blood culture colonies at 2 p. m. on April 23 was found dead on the morning of April 24. At the necropsy some enlargement of the spleen was found. Microscopic examination of a cover glass from the spleen showed enormous numbers of square ended capsule bearing large sized bacilli, usually occurring in chains.

A culture on blood serum said to have been prepared from the blood of one of the arm veins obtained with a sucker tube during the operation developed four colonies of large size. These were dry, finely granular and grayish. Microscopical examination of one of these showed bacilli like anthrax bacilli.

BACTERIOLOGICAL DIAGNOSIS

Infection with the anthrax bacillus.

Further Discussion

The whole lesson of these two cases of anthrax, so far as the surgical end of it goes, is the question of operating on anthrax, the excision of anthrax. The reason I thought this would be an interesting subject for discussion at this exercise was not that the serum treatment is not pretty well recognized now in America and used largely, but because it is in contradistinction to surgical excision, which should never be done. But the point is that many of the modern textbooks still advocate the operative treatment of anthrax. An authoritative book published in 1927 advocates operation with serum treatment, and the standard surgeries of recent date are advising operation, excision of the pustule.

In 1918 Scholl made some very interesting studies on anthrax in this hospital. I wish to read his statistics and add those that I have found since, and speak very briefly about the general feeling about anthrax. It is an interesting fact that no cases are recorded in the hospital index from 1923 to date, and that the deaths from anthrax in Massachusetts from 1915 to 1920 were thirty, and from 1921 to 1924 only four. So that there are fewer cases and fewer deaths.

Anthrax

Scholl's Statistics

In 1920 Scholl* reviewed 51 cases of anthrax occurring at the Massachusetts General Hospital from 1888 to 1918. His statistics are as follows:

Comparative Results of Operative and Non-Operative Treatment

Total cases	51	
Total deaths	7	13.7 per cent.
Cases treated surgically	9	
Deaths	4	44 per cent.
Cases treated without surgery	42	
Deaths	3	7 per cent.

Only one of these cases was treated with serum. This was among those that recovered.

Cases at the Massachusetts General Hospital from 1918 to 1922 inclusive. (No cases are recorded from 1923 to date, 1927.)

Total number of cases	11
Cases with operation	0
Cases without operation	11
Recovered	11
Mortality in this series	0

Scholl's Cases

No operation	42	
Less one, given serum	1	
	41	
Plus cases since 1918 (no operation)	11	
	52	
Deaths	3	
Mortality		5.77 per cent.

Other Data on Cases Since 1918

Sex: all males.	
Location of anthrax pustules:	
Face	4
Neck	3
Arm	4
Source of infection:	
Shaving brush	3
Hide handling	4
Tanning	1
Wool pulling	1
Leather handling	1
Fleshing hides	1
Average stay in hospital:	16.4 days
All cases in this group bacteriologically anthrax.	

*Scholl, Albert J., Anthrax: comparison of surgical and nonsurgical methods of treatment. J. A. M. A. 1920, Vol. 742, page 1441.

DEATHS FROM ANTHRAX IN MASSACHUSETTS SINCE 1915

1915— 4	1920—3
1916— 5	1921—0
1917—11	1922—1
1918— 5	1923—2
1919— 2	1924—2

This with a conservative treatment, physiological rest, forcing of fluid, and no surgery. That surely makes a very striking mortality percentage compared with the other cases. That is a very good mortality, and it compares very favorably with many of the statistical groups that I have found with serum treatment. But we cannot tell how the cases are going to go. The Regans at the Kingston Avenue Hospital in New York have studied and treated anthrax for a good many years and have written the best articles from the surgical standpoint. I think their work* is the most authoritative in America. In the first place they give a short history, and tell us how rare serum treatment was until lately. Then they give statistics. They instituted I think in this country the local treatment of the lesion with antianthrax serum and then with large doses intravenously, depending in amount on the severity of the anthrax infection.

I think that the serum ought to be used in all cases, because we cannot tell whether a case is going to go well or suddenly, in eight or ten hours, go badly and die. I have found in the literature cases, all small groups, as follows:

Four cases reported treated expectantly, no serum, all died.

Fourteen cases, no serum, expectant treatment, all died. I do not know why that should be. Whether there was lack of care and rest I do not know. But there we have these small groups of one hundred per cent. mortality with expectant treatment. In our records of the cases here, the few that died without operation would suddenly go bad. I remember one case of a lesion on the neck; within a few hours the patient got sicker and sicker and in a few hours died. I think the serum is safe. No harm has come so far as I know from using it, and I believe it ought to be used on every occasion.

There is one other thing very important, that is that we all should know anthrax when we see it in the Out-Patient Department and elsewhere, and think of the possibility of a queer looking furuncle or boil turning out to be that. Three or four cases have come to my attention where there have been boils on the neck or face which have ruptured, leaving a little bit of black eschar in the crater of the boil. Pus has not come out, and it looked for all the world like anthrax, except that we have not the blebs around the edges. But in such a case as that we do not want to excise or cut around it but wait and get a smear. If we operate and excise an anthrax lesion the chances of recovery are infinitely less. If we wait in such questionable cases and have an examination we shall be sure, and if we find it is a typical boil with a hemorrhage in the center we have done the right thing by waiting.

DR. LORD: Regarding the pulmonary form of anthrax, this was very much more frequent years ago than now, and perhaps the best report of the disease was given by Eppinger. Eppinger was able to collect nearly one hundred cases from 1865 to 1890, occurring in paper factories, among rag sorters, etc. The pulmonary form in recent years is very rare.

The pulmonary findings from the pathologic point of view are regularly the presence of pleuritis and a pneumonia which may seem to be lobar but is actually lobular. The pleural infection leads to the accumulation of a serofibrinous exudate on one or both sides, and atelectasis has been noted in a number of necropsies, also inflammatory softening of the lung tissue. A conspicuous feature from the pathologic point of view is the swelling of the bronchial lymph glands, very marked in this case. There is also parenchymatous swelling of the liver, kidney, and heart, and a splenic tumor, and lesions of a significant nature in the upper respiratory tract, —catarrhal disturbances and in certain cases pustules in the larynx and the trachea.

Regarding the symptoms of the pulmonary form there are in certain instances prodromata: a period of prostration with catarrhal disturbance in the eyes and nose, dry cough, usually a sudden onset with a respiratory localization, with a chill or chilliness, immediate rise of temperature, headache, weakness and extreme prostration. The absence of delirium is striking. On the part of the lungs the symptoms are cough with a colorless mucoid tenacious sputum, often blood-streaked or even prune-juice, shortness of breath, stitch in the side as in ordinary pneumonia, and rapid respiration. Cyanosis is striking, and usually there is marked elevation of the pulse. On physical examination of the chest the signs may be wholly those of bronchitis. Involvement of the pleura may often be made out, and at times pneumonia. The diagnosis of anthrax pneumonia may be made by finding the organism in the sputum, in the pleural fluid or by blood culture.

The outlook is grave. Death usually takes place within a few days, one to two, or at most by the sixth. A small number of cases recover, and this recovery may take place in five to twenty days. Convalescence is very slow.

Treatment of the pulmonary form should be by serum, in view of the evidence in its favor as a preventive and curative measure in animals. The serum is capable in animals of giving rise to recovery when the dosage of anthrax bacilli is such that it would otherwise be fatal, and in view also of the evidence of the successful serum treatment of anthrax septicemias in man. Symmers* of New York has reported from the

*Regan, Joseph C., Am. J. M. Sc. 1921, Vol. 162, page 406.
Regan, J. C. and C., J. A. M. A. June 1919, page 1724.
Regan, J. C. and C., Am. J. M. Sc. June, 1919, page 782.

*Douglas Symmers, Serum treatment of anthrax septicemia, Annals of Surgery, Vol. 75, page 663, 1922.

literature and his own experience seven recoveries with the use of antianthrax serum in anthrax pustule complicated by septicemia due to anthrax bacilli. The initial dosage recommended is 150 to 200 cubic centimeters intravenously, followed by 40 cubic centimeters every four hours until the blood culture is negative or death intervenes. It would be desirable invariably in the use of the serum for the local disease and for the pulmonary or any other form of the disease first to determine the sensitiveness of the patient to horse serum and to use a desensitizing dose as in the treatment of pneumonia with antipneumococcic serum.

DR. TRACY B. MALLORY: I do not know that there is very much that I can say about the pathology and bacteriology of anthrax, because in spite of the fact that perhaps no disease has received more attention and over a longer period of years, I think we are still very far from understanding the pathology of the disease. Of course it is one of the very first diseases in which prophylaxis was successful in the hands of Pasteur.

The diagnosis is made bacteriologically very easily. The organisms are characteristic morphologically, large Gram-positive bacilli. One can sometimes make out spores. One can quite regularly find capsules when the smears are made directly from animal fluids. The growth in culture media is not particularly characteristic, but the crucial test comes by inoculation in a mouse. With a particularly virulent strain the mouse can be killed with a single bacterium, and with a strain of ordinary virulence freshly isolated from a human case five or six are sufficient to produce a fatal result. So far as I know no one has ever proved the formation of a true toxin by the anthrax bacillus. I do not think however that it is utterly impossible that such is the case. The serum is presumably an antibacterial serum of the type of the pneumococcus Type I and the antimeningococcus serums.

A great deal has recently been written about anthrax by numerous French and other writers, particularly Besredka and Plotz. They have made the statement that the only tissue susceptible to anthrax infection is the epidermis, and cited some interesting experiments in proof of that. An extremely minute dose of bacteria, five or six organisms in the skin, will produce a fatal lesion in the mouse or guinea-pig. If introduced intravenously or intraperitoneally and elaborate precautions are taken that not a single drop gets into the skin wound through which the injection is made, the animals will withstand a hundred lethal doses as measured by the skin doses. Those facts are correct, but I do not believe Besredka's explanation is correct. As a matter of fact the same experiments were performed nearly thirty years before by Noetzel,* a German, with extremely careful technique. He dissected down on a vein, then injected his fluid and cauterized both ends of the vein so that not a single drop of blood would escape into the wound. He found that fifty to a hundred lethal doses could quite regularly be withstood. If, however, after doing that he injured tissues anywhere, or if when he gave it intraperitoneally he gave a dose of morphine sufficient in amount to paralyze peristalsis, then a focus developed and from that focal infection the infection spread and produced the death of the animal. I think that the probable explanation of this is that when the injection is made intraperitoneally or intravenously the organisms are suddenly distributed over a huge phagocytic endothelial surface; they are taken up with such rapidity that no focus of infection occurs and the animal recovers. If on account of injury at any spot a group of organisms gets into the small localized area where any trauma has occurred to produce necrosis of a single cell, then the conditions are right for the bacteria to develop, and from the focal infection a general one invariably develops. The application of this to the pathology of human cases is not yet clear. We do not see enough of these cases in present days to have much chance to study them. But I think one suggestive inference to be drawn is that a positive blood culture of anthrax bacillus is not necessarily as extremely bad a prognostic sign as one might expect. I do not believe that the organisms simply circulating in the blood do very much harm unless they localize somewhere else. If they produce focal lesions in the lungs, liver, kidneys, or spleen, then the process becomes serious.

DR. COUES: Has any work been done abroad in immunizing factory or leather workers or any other human beings with anthrax?

DR. MALLORY: I do not know of any.

DR. LORD: I should like to say that antianthrax serum from the Bureau of Animal Industry is available.

DR. COUES: I think that some of the large product houses make it now too.

A PHYSICIAN: Was the blood positive on this pulmonary case?

DR. MALLORY: It was post mortem.

DR. COUES: I think not before death.

A PHYSICIAN: What was the provisional diagnosis in the pulmonary case?

DR. MALLORY: A question of pneumonia, bronchitis, and pleural effusion.

A PHYSICIAN: How about the positive guaiac? Were you able to account for that?

DR. COUES: No. I asked Dr. Mallory and he was unable to find anything in the record. But I suppose in connection with that we ought to think of the possibility of something that has not been spoken of, and that is intestinal anthrax. It does occur. So that it might be that there was that infection there, and the patient might have had intestinal anthrax too.

DIAGNOSIS

Anthrax.

*Arch. fur klin. Chir., 1899, page 40.

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SOCIAL ETHICS VERSUS MEDICAL ETHICS

THE Professor of Social Ethics at Harvard University has recently been quoted in the press as having stated before a lay audience that only nine out of some 215 known diseases exist for which the medical profession has remedies that are absolutely necessary for the life of the person. If one resorts to quibbling over terms an argument in favor of the exact truth of this statement may be made, and the professor specializes in exact truths. The knife is not absolutely necessary for the life of the patient with acute appendicitis or empyema; the malarial patient may survive without quinine or the victim of diphtheria without antitoxin.

The implication to be derived from a casual reading of this report, however, is that the need of a physician is real in only nine diseases; that the remaining 206 will cure themselves as a result of the benefit only of good nursing. Feeling that the professor of Social Ethics must have been misquoted by the newspapers, the JOURNAL asked him to correct some of the apparent inaccuracies in the report, but the reply seems to indicate that he was not misquoted.

The exact truth, even if we admit that these statements were the exact truth, may frequently create distinctly false impressions if it is not properly interpreted and explained for the benefit of those who have not a detailed knowledge of the subject. Dr. Cabot's undenied statements certainly create the impression that he believes the medical profession to be of little value except in the specific instances of nine diseases. He does not qualify his statement by explaining that medical attention in many more diseases may make the difference between health and invalidism, between comfort and pain, between happiness and misery. He does not explain that medical attention and guidance may frequently be the means of averting disease and promoting the fullest enjoyment of health; he neglects to state that through the offices of the medical profession the public health is what it is, instead of what it might be; he neglects to state that there are twice nine diseases for which specific remedies exist which may cure, even if death is not always the alternative to cure. he makes no mention of the many conditions in which surgery is actually a life-saving procedure.

In his remarks Dr. Cabot shows that he fails to appreciate or wilfully neglects to analyze for the benefit of the public the true scope of medicine in these modern days. A knowledge of medicine is gained with travail and employed with difficulty. It is designed for the good of the public and can reach the peak of its usefulness only through education of the public to understand and appreciate its manifold blessings. Dr. Cabot beyond others is in a position to aid in that education, for the public holds him as a prophet in the land, but his opportunity has been neglected; instead of teaching his following to avail itself of the opportunities opened to them, he has made statements which tend to create a feeling of distrust; of disillusionment towards the profession of which he is a member and which has in the past so often flocked to his standard.

VACCINATION

THIS year four bills were introduced in the Legislature dealing with vaccination. Three of these were introduced by Representative Ashton of Fall River on petition of N. F. Mason Padelford of that city. House 595, entitled "an act to abolish compulsory vaccination" proposed that the present requirements be abolished whenever a parent or guardian expresses opposition to vaccination. This bill would do away completely with compulsory vaccination of children as a condition for school attendance.

House 596 and House 597 while nominally intended to insure the purity of vaccine virus really aim at all vaccination against smallpox.

House 793 introduced by Representative

Slater Washburn of Worcester would extend the existing provisions regarding the vaccination of children attending public schools to those children attending private schools. This would do away with a class discrimination now existing. The bill would further require the physician giving a certificate of exemption from vaccination to state his reasons and would make the certificate valid for one year only.

All of these bills were withdrawn before the time of the announced hearing. There will be no legislation upon the matter at this session. It will doubtless come up again when the newly elected Legislature meets next January.

The Massachusetts Medical Society has no intention of dropping the fight for more adequate vaccination laws. Under the able leadership of Dr. S. B. Woodward of Worcester the Washburn bill has been repeatedly advocated before the Committee on Public Health. Representative Washburn deserves unstinted praise for his splendid efforts in support of this public health measure. It has been passed by the House for three successive years. The Senate has defeated the bill. Some Senators favor the bill. Others are inconceivably opposed to it. A majority of this small body are either indifferent or are afraid to antagonize the active opponents of vaccination. The Medical Liberty League is constantly at work and at times is very actively at work against vaccination. The Washburn bill has not been enacted because of the indifference of the members of the Massachusetts Medical Society. As soon as physicians talk with their Legislators and convince them of the need and reasonableness of the vaccination of all school children their measure will be enacted. Representatives and Senators should be seen but primarily the work must be done with the members of the Senate. If we really desire this public health safeguard we must seek it. Indolence and indifference in the medical profession are reflected in the votes of the Senate.

RABIES

THERE should be no death from human rabies. That such a death should occur in an enlightened community is a serious reflection on the medical profession and on the public at large. No physician of standing should tolerate a supine attitude towards prophylactic treatment, especially in view of the fact that animal rabies is in the community and public opinion is not strong enough to back up the police and other protecting agencies in their attempt to wipe it out. In spite of the ninety-day muzzling law now in force, there have been many stray, and not a few rabid, dogs on our streets. The medical profession can greatly augment the efforts of the State Commissioner of Health by enlightening that part of the public with which they are in constant contact; their patients. Such measures help, sometimes far beyond our hopes, but let it also be known that no physician in practice ever takes any steps other than the strongest urgings on his part to insist that all patients bitten by animals take the Pasteur treatment at once.

It has been the misfortune, this winter, of one of our largest hospitals to have two cases of human rabies die within its walls. Both patients, one seventy and the other nineteen, died a death that can only be described as horrible. The families of these poor victims perhaps suffer the most, in view of the knowledge that the patient's one chance of life was not given to him. And yet, one hopes that the lesson is not in vain. Those associated with these deaths are hardly likely to forget, nor are they likely, as time goes on, to fail to use early Pasteur treatment in all cases of dogbite, or to spread the knowledge that human rabies is a disease, always fatal but made practically preventable by one of the greatest lovers of man and animals of modern times, Pasteur.

Let there be no more deaths from human rabies in New England!

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

BARRINGER, BENJAMIN S. M.D. Cornell University Medical College, 1902. F.A.C.S. Surgeon at Memorial Hospital, New York; Consulting Urological Surgeon at Mary McClellan Hospital and Nyack Hospital; member of the American Association of Genito Urinary Surgeons. His subject is: "Carcinoma of the Prostate and Bladder". Page 117. Address: 134 E. 76th Street, New York City.

LANE, EDWARD A. A.B., C.P.H., M.D. Cornell, 1916. District Health Officer Metropolitan District, Massachusetts Department of Public Health; Assistant in Public Health Administration, Harvard School of Public Health. His subject is: "Diphtheria Epidemic—Marlborough, August-November, 1927". Page 135. Address: 546 State House, Boston.

SWAN, CHANNING S. A.B., M.D. Harvard, 1923. Surgical House Officer Massachusetts General Hospital 1923-1925; Interne in Urology, Johns Hopkins Hospital 1925-1926; Assistant Visiting Surgeon to the Long Island Hospital, Boston; Associated with Dr. J. H. Cunningham in the practice of Urology. His subject is: "Functional Results After Prostatectomy". Page 137. Address: 46 Gloucester Street, Boston.

VERMOOTEN, VINCENT. B.A., M.A., M.D. Johns Hopkins University School of Medicine, 1923. Assistant in Genito-Urinary Surgery, Harvard University; Assistant Resident Surgeon, Peter Bent Brigham Hospital. His subject is: "Grass in the Urinary Bladder". Page 139. Address: Peter Bent Brigham Hospital, Boston.

GHORMLEY, R. K., B.S., M.D. Johns Hopkins, 1918. Assistant Orthopedic Surgeon, Massachusetts General Hospital; Instructor in Orthopedic Surgery, Harvard Medical School. His subject is: "Progress in Orthopedic Surgery". Page 141. Address: 234 Marlborough Street, Boston.

The Massachusetts Medical Society

SECTION OF OBSTETRICS AND GYNECOLOGY

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Frederick J. Lynch, M.D., *Clerk*

What Is the Management of a Breech Presentation?

The fact of a breech is in itself presumptive evidence of some variation from the obstetric normal, beyond the abnormal position. Commonly this variation is a small pelvis; a low placenta is not infrequently encountered. A breech discovered, a careful examination should be made to determine the possible presence of some other condition carrying in itself a grave prognosis for child or mother. The higher foetal mortality of breech presentations is due frequently to the accompanying pathology. A breech delivery, properly conducted, in the absence of other pathology, is a relatively easy and safe delivery. It should always be borne in mind that a breech may be the first evidence encountered, of a multiple pregnancy.

The breech cases present an opportunity for nice obstetric judgment: which case may be confidently allowed to proceed as a breech delivery, which should be delivered by another method. The relative disproportion cases present the difficult problem. The alternative delivery being a cesarean, the importance of a correct decision is increased.

The attempt before delivery, by external version, to convert a breech into a normal vertex has no practical value. The procedure itself is not difficult but the maintenance of the corrected position is. Its employment ignores fundamental aspects of a breech presentation. An uncomplicated breech will deliver itself with probably not greater difficulty than would a vertex, while the breech, complicated by a small pelvis, or a previa, is obviously not greatly benefited by changing the presentation. A "primiparous breech" is often accepted as one of an increasing number of indications for cesarean. As a generalization this is not good obstetrics. Aside from the breech presentation there should be other indications to warrant delivery by section; a definitely determined disproportion, possibly a previa or a complicating neoplasm, would be definite section indications. The elderly primapara, or a delayed first stage, might represent a type of case with a relative indication for cesarean.

It is of practical importance in the management of breech cases that the family is fully informed of the possibilities and that it shares in the responsibility for border line decisions.

It being decided that a breech presentation may be safely allowed to proceed as such the second aspect of the management of a breech presents itself, the actual conduct of the breech delivery. In such a case the first general rule is to allow the delivery to proceed without interference as long as there is obvious progress. One should not ordinarily attempt extraction as soon as the presenting breech can be grasped, rather labor should be allowed to proceed until a well developed crowning has dilated, in considerable degree, the pelvic floor. With crowning obstetric ether is started for better control. The time when the breech no longer recedes in the interval between contractions is the correct time to begin traction. At this time the obstetric ether should be carried to primary anesthesia, the relaxation thus secured aiding materially in extraction. As traction on the breech is made, the legs should be left extended (to secure a greater dilation of the perineum); the line of traction should be parallel to the long axis of the mother's body, the foetus rotated if necessary, to keep the back anterior; as the shoulder girdle comes to the pelvic floor that shoulder most anterior should be rotated under the arch, traction at this time sharply downward; anterior rotation is sometimes advantageously aided by finger pressure under the shoulder. It is best,if possible, to secure complete delivery of the anterior shoulder by continuing downward traction alone rather than to secure its early delivery by hooking the arm out from under the arch. The anterior arm delivered, the body is rotated slowly in the reverse direction to bring the posterior shoulder anterior, traction sharply downward being continued. Its delivery is most advantageously secured by continued downward traction; this line of traction is necessary to most easily bring the after coming head to the low pelvis. Premature delivery of the shoulders is usually followed by premature upward traction with resultant disturbance of mechanism of the after coming head. The shoulders delivered, the hold is transferred to them, the foetal body held at right angles to the long axis of the mother's body. From this point the entire force necessary for continued descent of the head *must* be furnished by abdominal pressure. Flexion of the head is favored by the gentle traction of a finger in the mouth. If delay is encountered at this point, the perineum should be retracted by a Sims speculum, up to the baby's mouth, permitting inspiration if respiratory attempts begin. Delay at this point is usually the result of an incompletely dilated pelvic floor. The perineum retracted, sufficient time can be taken to complete this dilation without undue injury. Forceps to the after coming head, to complete delivery, should be resorted to rather than undue

traction on the shoulders. As soon as the mouth is over the perineal edge, sufficient time may be taken to reduce perineal injury to a minimum.

Questions of a similar nature to the above will be discussed in the JOURNAL each week. They may be addressed to the Clerk of the Committee, in care of the JOURNAL and will be answered by members of the Committee of the Section of Obstetrics and Gynecology.

BOSTON MEDICAL LIBRARY

NOTES ON CURRENT LITERATURE AND RARE BOOKS

The Boston Medical Library receives from the larger Boston hospitals a list of their operative work for each day. It is available here on the Bulletin board in the entrance hall or may be had by calling Kenmore 1617. This information is not available before nine o'clock A. M. of the day on which the operations are scheduled. The hospitals supplying this information are the Boston City Hospital, Massachusetts General, and the Peter Bent Brigham. Others may be added later.

During the week of March 12th there will be exhibited in Holmes Hall the significant literature on Rabies for the guidance of those who wish to be informed. It is important that as much enlightened sentiment as possible be brought to bear upon this most important public health question. To assist in the achievement of this end the Library opens its doors to all whether layman or professional who desire to avail themselves of its resources.

In commemoration of the two hundredth anniversary of the birth of John Hunter which should have been celebrated on February 13th, those who are interested may find on exhibition the more important editions of his works in Holmes Hall at the Boston Medical Library from March 12th to 17th.

JOHN HUNTER
1728—1793

With two commemorative celebrations last year, those of Laennec and Lister and this year of Harvey and Hunter, opportunity has been offered to renew our acquaintance with the characters and activities of four of the master minds of medicine. A study of the life of John Hunter is interesting and instructive from several points of view. That there should have come from one family two men of such outstanding prominence in the same field of activity as William and John Hunter is in itself unusual. That in the family background there should have been nothing in its previous record that would predicate such an outcome makes this all the more remarkable, for though their forebears were stable Scotch families on both sides, distinguished for integrity and honesty, there had been no individuals conspicuous in the lines along which these two men became famous. In fact the earlier years of John Hunter's life offered no hint of the direction in which his tastes would lead and certainly none of any exceptional abilities. He had no liking for books or scholarship, in fact ridiculed such interests and dropped his formal education at an early period. As a boy and youth it was out-of-door, country sports with a not unusual interest in natural history that seemed to attract him most. About the time he was seventeen he went to Glasgow to live with and work for a relative in the lumber business and for a time was employed as a cabinet maker.

At twenty he joined his brother William in London to help him with his dissections. He was surprisingly clever at dissecting and popular with the "Resurrection-men". His brother secured permission for him to "attend" at the Chelsea Hospital (1749) with William Cheselden and two years later (1751) he became a pupil of Percival Pott at St. Bartholomews. He was chosen one of the "masters of anatomy" of the Surgeons corporation. In 1754 he entered as surgeon-pupil at St. Georges and for several months in 1756 he was house surgeon. In 1755 he matriculated at St. Marys Hall, Oxford, but did not complete his course as he had no stomach for the classics. He was assisting his brother with his lectures as early as 1754. He was busy with numerous anatomical investigations on the lymphatic system, the veins, the placental circulation, the descent of the testis in the foetus and the nasal and olfactory nerves.

Because of ill health, in 1759, he took an ocean trip as surgeon for a naval expedition where he busied himself with a study of the coagulation of the blood. Later (1762) he gained experience valuable to him as a surgeon, in the British army in Portugal. He was also at this time interested in the habits of hibernating animals. He returned to London and set up as a surgeon in 1764, offering classes in anatomy and surgery but his diffidence and bad delivery made him a poor teacher and he never had many pupils. He obtained all the animals that died in menageries, etc., to study and fitted up a very complete (for the time) laboratory and museum. Whenever as much as ten guineas accumulated he used a portion of it to purchase animals or specimens. He was indefatigable in the pursuit of his surgical interests. Even a personal experience with a ruptured tendo Achilles in his own leg, gave him opportunity to make studies upon the repair of tendons (1767) that led to the development of our present day knowledge on this subject.

In 1766 he made his first venture in print. In 1768 he secured the position of Surgeon to St. Georges Hospital which marked a very great increase in the size of his practice and on account of which he moved into larger quarters, vacated by his brother William. He took house pupils here, bound to him for five years for five hundred guineas. Among them was Jenner of whom he was very fond. In 1771 he published

part of his work on the human teeth. In this year he was married. In 1722 he presented to the Royal Society, to which he had been elected in 1767 (earlier than his brother William), a memorable paper on "The digestion in the stomach after death". He kept adding more and more to his museum and it had cost him at the time he ceased collecting 10,000 pounds. During the last fifteen years of his life he was subject to anginal attacks though he never suffered these to interrupt his work for any length of time and when they were over he went back to his customary activities with his usual vigor.

As one reviews John Hunter's life in perspective there are several thoughts that are aroused by it. In the first place it is apparent that a formal schooling is not an essential to success in even so strictly a professional field as medicine. Honesty of purpose, determination to succeed and willingness to work will accomplish great things. Had this been accompanied in Hunter's case by a liberal, cultured training how much more he might have accomplished is merely conjecture. His deficiencies in this respect doubtless account for most of the unlovely features of his character, and he had such. He was diffident and lacked the faculty of being pleasing in his address; he was careless in his attire, rather rough and abrupt in his speech, intolerant and not a particularly easy person to get along with, as is evidenced by the frequent embroilments in which he was mixed up with the Hospital staff and more unfortunately with his older brother, William, from whom he was estranged for many years before his death. He allowed his interest in natural history to keep him poor all his life as he was a prodigal spender on the upkeep of his museum and his biological laboratory. To such an extent did he indulge himself in this way that he had barely enough to pay his debts when he died and had it not been for grants from the Government and the purchase by vote of Parliament of his Museum for something like 15,000 pounds his widow would have had no income to live upon, and as it was she was obliged to pursue a very different plan of life from what she had been accustomed to either during her husband's life or before her marriage. The bickering and quarreling in which he was so frequently engaged with regard to priority of discovery or other matters of no greater significance seem to us of today to cast a sinister shadow across a path which in other respects was so brightly illumined. We must remember however that that was the fashion of the day.

His interest in anatomy was not in its descriptive feature and the vast amount of dissection he did, both human and upon every available variety of animal, built up his vast knowledge of anatomic and physiologic function. Over 13,000 specimens were duly catalogued and described but this was only a small amount of the work of this sort that he did. His sleep requirements were only four to five hours and the rest of the twenty-four he was busy with his dissections, classifications, descriptions, collections and such time as he was obliged to spend in taking care of his surgical practice. Up to the time of the death of Percival Pott his practice had not been large but upon his passing, Hunter became the chief surgeon of London and his practice correspondingly increased.

His publications, put out at last through his own printing establishment, were but a small part of the vast amount of material which he had in manuscript form, the bulk of which was burned. His connection with the medical teaching at St. Georges Hospital was perhaps the most fruitful source for those embittered conflicts with confrères that seemed so beneath the dignity of a man of his capacity, but probably should be looked upon charitably. It was in consequence of one of these conflicts at a Board meeting of the Hospital at which he was in attendance that anger provoked an anginal attack from which he immediately died. This occurred on October 16, 1793, as Cliff points out, the very day and hour in which Marie Antoinette was being beheaded in Paris. The rule of his life as he somewhere expressed it could very well serve as a guide to any student of science:

"Don't think, try; be patient, be accurate."

MISCELLANY

APPOINTMENTS AT PONDVILLE HOSPITAL

Dr. Grantley W. Taylor has been selected as Visiting Surgeon on the Visiting Staff, which is headed by Dr. Ernest M. Daland. Dr. Taylor is now affiliated with the Massachusetts General Hospital, the Collis P. Huntington Memorial Hospital and the Good Samaritan Hospital.

Dr. James I. Knott has been recently appointed resident physician at the Hospital. Dr. Knott comes from St. Louis, where he has been doing work in the Barnard Free Skin and Cancer Hospital. He comes to Massachusetts to enlarge his experience with cancer work. Dr. Knott is a graduate of the Washington University School of Medicine at St. Louis in 1925, and has done post-graduate work at the Washington University. In addition, he has served at the Jewish Hospital in St. Louis and at the Strong Memorial Hospital in Rochester, New York.

These appointments will strengthen the clinic service given every Thursday afternoon at the Hospital. Physicians may bring in their patients or send them with a letter, in which case the findings are reported by mail. The telephone number of the Hospital is Walpole 386.

PASTEUR AND RABIES

Before the days of Pasteur the bite of a mad dog meant probable death.

In 1885, while experiments on rabies were still in an early stage, a little Alsatian boy, Joseph Meister, was brought into Pasteur's laboratory.

This child had been attacked by a rabid dog and the wounds on his legs, thighs and hands had been cauterized—not at once by a red-hot iron, but by carbolic acid, twelve hours afterwards.

Pasteur hesitated to apply a treatment which was not yet fully established by experiments. Persuaded finally, he performed a series of inoculations over

a period of ten days. Each time he injected a substance more virulent than the last, and in this way built up an immunity to the disease. The material contained in the last injection, when tested on a rabbit that was not protected by anti-rabic inoculation, was strong enough to cause hydrophobia after only seven days' incubation. Its injection was a sure test of the immunity established by the treatment. The little boy's life was saved.

Since then Pasteur treatments have been given successfully to thousands of people. The value of the treatments depends to some extent upon a prompt diagnosis of the disease. We must therefore continue to work toward the elimination of rabies in the dogs themselves.

Anti-rabic vaccines for the protection of dogs have been developed, but so far the immunity they confer is of relatively short duration. Experiments on animals now going on in scientific laboratories encourage us to hope that eventually there will be prepared a vaccine that can effectively protect them against rabies.

IF YOU ARE BITTEN BY A DOG

1) Report at once to the Health Department.

2) Do not kill the dog unless this is necessary. Lock him up and examine him daily for symptoms of rabies.

3) If the dog that has bitten you cannot be found, and the circumstances of the biting warrant the assumption that the dog was probably rabid, apply to your physician or the Board of Health for the Pasteur treatment.

4) If the dog remains well for a period of ten days after the bite, you do not need the Pasteur treatment.

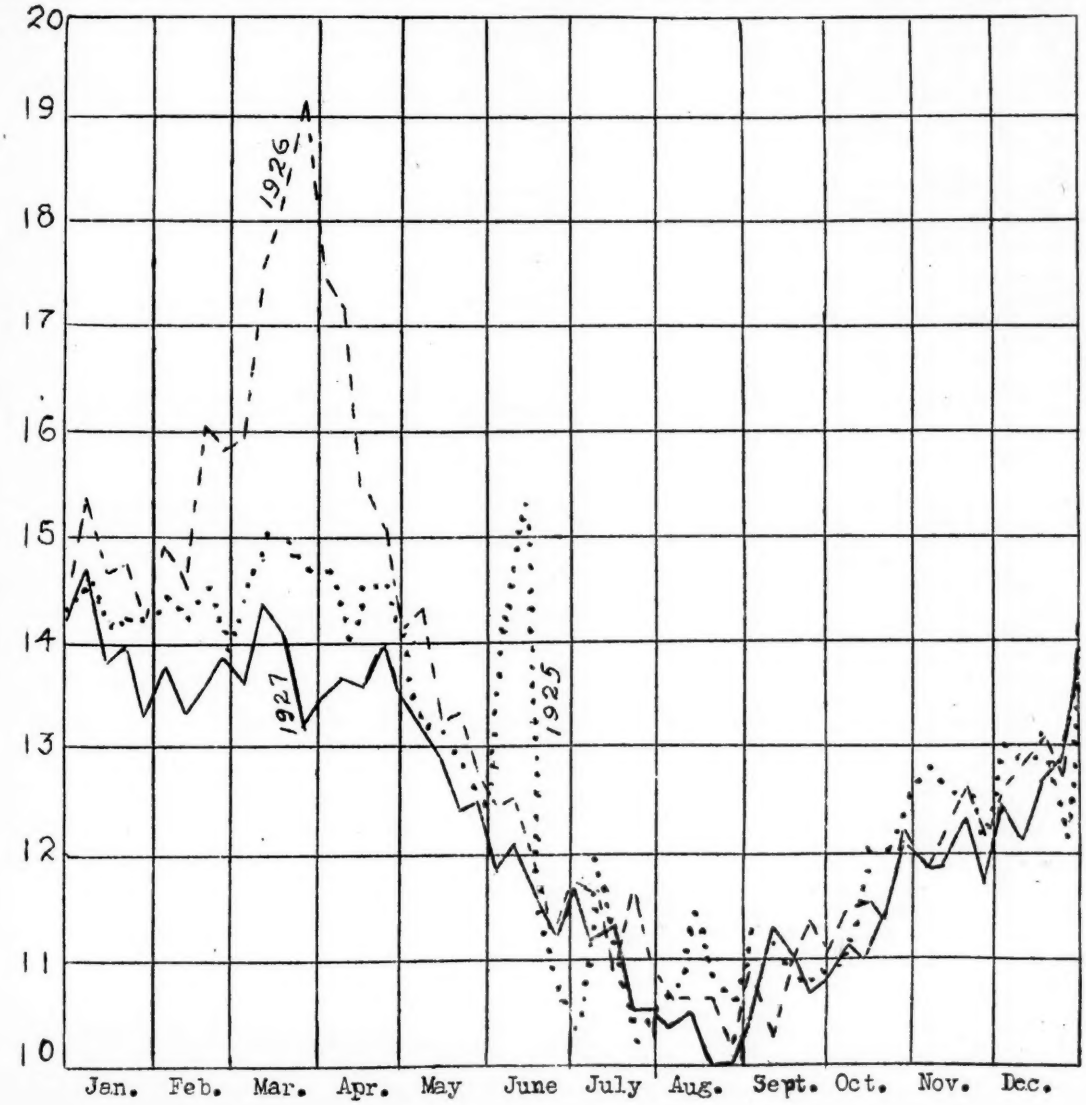
5) If the dog develops rabies, begin treatment at once. It takes a number of days.

Report stray dogs to the city. Anti-rabic vaccination for dogs is not yet a sure preventive. Pending further experiment the only safe measures for controlling the disease are universal muzzling of dogs at large or else their prompt removal. See that your dog pound has funds sufficient for its work.

The above is a copy of the leaflet prepared and distributed by the American Association for Medical Progress, Inc., 370 Seventh Avenue, N. Y. They may be obtained in quantity from the Association.

WEEKLY HEALTH INDEX

The Department of Commerce, Washington, has published a chart of the weekly health index setting forth the mortality rates of cities reporting 1925, 1926, and 1927. This is quite interesting in that the chart shows an encouraging condition of things in 1927 as compared with the two preceding years.



FIRST UNIT OF NEW YORK MEDICAL CENTER TO BE OPENED

A few days after the official opening day, on March 16, 1928, when the new Presbyterian Hospital building at the Medical Center in New York, will be open for inspection by the Medical Authorities, the Presbyterian Hospital of New York will admit patients to wards and private rooms, and out patients to the Vanderbilt Clinic. This building, the tallest hospital structure in the world, in which are housed the Presbyterian Hospital, the Sloane Hospital for Women and Squier Urological Clinic has an ultimate bed capacity of 1,177.

A few days before this date Anna C. Maxwell Hall, the residence of the Presbyterian Hospital Training School pupils, will be first occupied by the incoming class of about 50 students. This is a fifteen-story H shaped structure having living quarters for 360 pupil nurses, an individual room with running water for each pupil nurse; a large swimming pool and recreation hall are features of the residence.

NOTES ON CHILD WELFARE TOPICS

The Unmarried Mother. The psychologist of the Minnesota State Board of Control reports that in a group of nearly 350 unmarried mothers whose children were born in Twin Cities hospitals during a recent year there was over four times as large a proportion of feeble-minded as among a group of some 7,000 school children. She estimates that about 2,000 children born out of wedlock were being supported by the State at an annual expense of approximately half a million dollars. The early detection and care of the feebleminded, more visiting teachers and social workers, and more club and neighborhood houses are suggested by her as preventive measures.

Healthy Children Have the Best Hearing. In a recent text of the hearing of four groups of children by a physician of Boston, a group of boys in a school which maintained high physical and nutritional standards proved to have the best hearing. The children in an institute for the blind made the next best average, and a group of children from the Boston public schools followed them closely. The poorest average was made by a group of crippled and deformed children in a State institution.

Compiled by U. S. Children's Bureau.

CLINICAL TOUR OF EUROPE

The American College of Physical Therapy is sponsoring a tour of Europe starting from New York on May 26. In London, St. Bartholomew's Hospital, the Middlesex Hospital, the London General Hospital and the Lord Trelor Hospital will be visited. The party will also visit Paris, Switzerland, Austria, Germany and Denmark, where the clinical visit will end.

Any doctor who is interested in Physical Therapy is cordially invited to attend these clinics. Headquarters for the tour have been established at 25 Broadway, Suite 656, New York, where further particulars may be obtained.

CHILD HEALTH WORK IN CONNECTICUT

A well child conference was opened in the Town Hall of Winsted, Connecticut, January 31, under the auspices of the Public Health Nursing Association, with the support of the health officers and doctors of the city, and with the coöperation of the State Department of Health. The conference will be held hereafter the third Wednesday of each month. On Saturday, February 11, a similar conference was opened at Guilford.

RECENT DEATH

MacKNIGHT—Dr. Adam Stephenson MacKnight, Superintendent of the Bristol County Tuberculosis Hospital at Attleborough since 1918, died at his home in that city February 27, 1928, aged 69.

Dr. MacKnight was born in Philadelphia, October 23, 1858, took his M.D. at Jefferson Medical College in 1888 and practised in his native city and in New York until 1895, when he became medical examiner of Newport County, Rhode Island. Three years later he settled in Fall River and joined the Massachusetts Medical Society. He was district health officer for the Fall River District when he was placed in charge of the Bristol County hospital. In 1926 he was elected chairman of the Section of Tuberculosis of the Massachusetts Medical Society. He was a Fellow of the American Medical Association.

OBITUARY

WILLIAM RICHARDSON WOODBURY, M.D.
1863—1927

Dr. William Richardson Woodbury of Rochester, N. Y., who recently died in that city, was, for many years, a practitioner in Boston and a physician to the Boston Dispensary. He was born in Boston, September 17, 1863, the son of Mary Richardson and Isaac D. Woodbury; his ancestors were old New England stock. Dr. Woodbury was graduated from Tufts' College in 1885 with Phi Beta Kappa rank and from the Harvard Medical School in 1889 and later passed two years in Berlin and Vienna. About 1892 he began the practice of neurology in Boston and continued until 1916, when he moved to Rochester, N. Y., where he married Mary Pease Milliman, who survives him. During most of this period, also, he was in charge of the neurological clinic at the Boston Dispensary.

After his removal to Rochester he continued his practice and also served as neurologist to the Genesee Hospital of that city. During the war he was commissioned as a captain in the medical corps and was stationed at the St. Elizabeth's Hospital, Washington, D. C., and at Camp Shelby, Miss. He was a member of the Massachusetts and the New York Medical Societies, the American Medical Association, the Rochester Academy of Medicine, the American Academy of Dental Science, the Harvard Club of Boston, the Rochester Harvard Club and the University Club of Rochester, N. Y.

Dr. Woodbury was a man of culture and learning. His quiet and rather retiring disposition kept him from being a very prominent figure in Boston for he seldom spoke in medical meetings, nor did he add to the medical literature of his day. During the latter years of his life he became interested in the Freudian theory of psychoanalysis, which he modified in accordance with his own best judgment. He was particularly successful with his patients in Rochester and his practice there was large. He found time, however, to serve in public hospitals and was responsible, in Rochester, for the establishment of the Dental Clinic, thus continuing his interests in the relation of dentistry to medicine, a subject which had been prominent in his mind since the beginning of his practice. While in Boston he had been associated with dental research at the Harvard Dental School. Another connection with Boston was not lost sight of during his ten years at Rochester, the Boston Medical Library. He was a devoted friend of the Library and for many years he was a constant visitor. After his removal to Rochester he continued his interest by occasional visits to the Director and by correspondence.

Dr. Woodbury, "a gracious and cultured gentleman," died at the Rochester General Hospital, after a brief illness, September 29, 1927.

CORRESPONDENCE

NOTES ON NATIONAL AFFAIRS

By Our Regular Correspondent

THE HEALING ART IN THE DISTRICT OF COLUMBIA

The District of Columbia, for which the Congress of the United States acts, or is supposed to act, as local legislature, is now much favored with measures proposing or purporting to regulate various branches of the healing art. Thus, there are bills before Congress to regulate osteopathy, chiropractic, and naturopathy in the nation's capital, where none of these cults are now subject to any special supervision.

These bills are all objectionable to the medical profession. In the case of the osteopaths, whose standards are stated to include a high school education, two years pre-medical work, and four years in an osteopathic college, the licensed practitioners would be given all of the privileges of regular physicians, including the right to use narcotics, sign death certificates, and practice in public institutions. The chiropractors, after a high school education and eighteen months of instruction in the tenets of their cult would be permitted to take an examination to practice, or, if they had already been practicing, would be licensed without an examination.

A most comprehensive bill to regulate the healing art generally and to protect public health in the District of Columbia was introduced in the House on February 10, 1928, by Representative Bowman of West Virginia. This particular measure, H.R.10798, is nearly 50 pages in length and because it embodies many sensible propositions merits the attention of the medical profession throughout the country. Legislation adopted by Congress for the City of Washington is sometimes looked upon as in the nature of model legislation, though actually it is sometimes anything but that.

The Bowman bill applies to every branch of the healing art, except dentistry, podiatry, optometry, pharmacy, and nursing, which are already regulated by law in the District of Columbia. It provides that no person shall practice the healing art in the District unless licensed to do so, and defines broadly the terms "practice" and "healing art." A commission on licensure would be created, consisting of the President of the Board of Commissioners (who at present happens to be an engineer and graduate of the Massachusetts Institute of Technology), the U. S. Commissioner of Education, the U. S. District Attorney, the superintendent of schools, and the health officer of the District of Columbia.

This commission would establish minimum standards of pre-professional and professional education in the healing art and could also rate schools and hospitals as to standards of education in these subjects. All applicants to practice would come before this commission, which would determine their general qualifications and then refer them to an appropriate examining board of from three to five members. The commission would appoint the following boards, (a) basic sciences, (b) medicine and osteopathy, (c) midwifery, and (d) drugless healing. In the last category there might be several boards.

The board of examiners in basic sciences would examine every applicant, except those entitled to practice by virtue of a previous license to practice medicine and surgery in the District of Columbia, or "those entitled to licenses by virtue of years of practice of osteopathy or some form of drugless healing." The board would examine applicants in the sciences of anatomy, physiology, chemistry, bacteriology, and pathology. No member of this board could teach or practice while serving.

The board of examiners in medicine and osteopathy would consist of "four practitioners of medicine and surgery, one of whom shall be an adherent of the homeopathic school and one an osteopath." On petition of five or more adherents of any drugless method of healing who have practiced for at least five years, the commission may appoint an examining board for the cult in question. After passing the basic science examination, applicants would be referred to the suitable board. The commission would prescribe by rule the nature and extent of the various examinations given by the various boards, all such tests to be in writing supplemented by laboratory and clinical tests, if practicable, and if deemed proper, by oral examinations. The commission would also have the power to abolish such boards if the public interest no longer requires them.

The examinations of the respective boards would be conducted twice a year, in January and July, except that the basic science board would be held whenever the commission ordered. All questions proposed would be submitted in advance to the commission by the various boards and the commission would be empowered to select questions relating to the diagnosis and prevention of communicable diseases and give them to all applicants. All reports and answers would be open to public inspection.

Fees for licenses are set as $25 for license on the basis of an examination, $50 for a license by reciprocity, and $1 for a license on the basis of an existing license or by virtue of years of practice. Persons already licensed to practice medicine and surgery, or midwifery, would have to be relicensed under the terms of the act, but no such licenses would be issued after five years from the date of approval of the law.

Any osteopath who had practiced for ten years prior to the passage of the act or who had previously obtained a diploma from a college recognized by the American Osteopathic Association would be entitled to a license without examination. Any drugless healer who had practiced for three years and had graduated with a degree could also apply for license without examination. The licenses in these cases would be only for the practice of the particular branch of the healing art, and not medicine generally.

In the case of licenses by reciprocity, regular physicians must have had at least two years of pre-medical college work, four years medical school, and one year in a hospital, whereas osteopathic and drugless healers graduating prior to December 31, 1930 would be required to have only a high school education. After that date two years pre-medical work, four full years of professional instruction, and one year of hospital training would be required of applicants of these schools of healing.

The bill closes with an enumeration of offenses for which licenses might be revoked. It likewise exempts medical officers of the Federal Government from its provisions, and also duly licensed practitioners of nearby States called to attend patients in the District of Columbia.

This measure has been outlined in some detail because of its great interest and importance to the medical profession. Residents of the District of Columbia are bereft of the privilege and duty of voting and so must depend upon their well-wishers in the States to influence their own particular representatives in Congress to vote favorably or otherwise on matters pertaining to the City of Washington.

ON THE NURSING PROBLEM

February 27, 1928.

NEW ENGLAND JOURNAL OF MEDICINE.

Mr. Editor:

I have been watching all types of periodicals for material on nursing, and of course have paid particular attention to the medical journals. It was, therefore, with much interest that I came upon the article

in your issue of January 19, in which you discussed so fearlessly "The Crisis in Boston's Traditions of Nursing." Your thoughtful analysis of the economic factors in the situation I should suppose would have great weight with the proper authorities. It must, of course, be gratifying to the nurses to know that you are so ready to take up the cudgels in a matter which is obviously of vital importance to them.

Our study of the whole nursing situation has led us rather widely afield, and I think all the members of the Committee are particularly impressed with the fact that as a profession nursing is on a most insecure economic basis. The more thoughtful element in the profession is already working towards some sort of a reorganization and a solution for the existing serious problems. I should think that they would find great encouragement when the medical profession, through its official organs, is willing so frankly to stand behind the demand for thoroughly competent women at the head of important nursing services.

Sincerely yours,

MAY AYRES BURGESS, *Director*,
Committee on the Grading of Nursing Schools.

RESPONSE TO APPEAL FOR ASSISTANCE

The American Red Cross
Boston Metropolitan Chapter

March 2, 1928.

To the Editor of THE NEW ENGLAND JOURNAL OF MEDICINE:

Thank you for putting into the JOURNAL the statement about the doctor in Greenville, Mississippi, who lost his library and instruments in a fire recently.

You will be glad to know that to date we have received gifts as follows: From Dr. Charles C. Foster, Cambridge, a microscope; from Dr. W. B. Bannerman, East Bridgewater, Tice's "Practice of Medicine".

Gifts of the other items on the list published in the February 23 issue of the JOURNAL, page 56, will be appreciated and duly acknowledged by the Boston Metropolitan Chapter.

Sincerely yours,

ROY M. CUSHMAN, *Director*.

DESCARTES ON ANIMAL SPIRITS IN THE VENTRICLES OF THE BRAIN

Mr. Editor:

The following is from "The Survival of Mediaeval Intellectual Interests into Early Modern Times," by Lynn Thorndike, published in "Speculum" for April, 1927.

The author tells us the Descartes was concerned with many of the problems and speculations, "which had occupied the attention of the science and philosophy of previous centuries." . . . "He repeats the old notion of the formation of animal spirits in the cavities of the brain." Indeed it was not overthrown until the time of Gall in the nineteenth century. Descartes' doctrine of the pineal gland in the brain as the connecting link between soul and body reminds one of the explanation of thought as the opening and closing of "a particle of the substance of the brain similar to a worm," which we find in the ninth century Arabic treatise of Costa ben Luca, "On the Difference between Soul and Spirit."

"Costa ben Luca represented this particle as forming a sort of valve between the anterior and posterior ventricles, and held that when a man was in the act of recalling something to mind, this valve opened and the subtle spirits passed from the anterior to the posterior cavity."

Now hear Descartes' explanation: "Thus when the soul desires to recollect something, this desire causes the gland by inclining successively to different sides, to thrust the spirits towards different parts of the brain until they come across that part where the traces left there by the object which we wish to recollect are found."

Thorndike concludes: "Finally before taking leave of Descartes, let us recall that even his claim to be the inventor of analytical geometry must be discounted, since Nicholas Oresme had already made use of coördinates in the fourteenth century. Oresme had also employed fractional exponents for powers, an innovation formerly attributed to the sixteenth century mathematicians, Vieta and Stevin."

Very truly yours,

WM. PEARCE COUES, M.D.

February 17th, 1928.

THE APPOINTMENT OF DR. PAUL WAKEFIELD

NEW ENGLAND JOURNAL OF MEDICINE.

Mr. Editor:

May I announce through your columns the appointment of Dr. Paul Wakefield as Supervisor of Tuberculosis Clinics at present being held in the schools throughout the State. As you know, this is a part of the so-called Ten-Year Tuberculosis Program instituted by the Department some three years ago of which Dr. Henry D. Chadwick is the presiding genius. Previously Dr. George M. Sullivan was in charge but he has left to become State District Health Officer in the Northeastern District.

Dr. Wakefield received his A.B. in 1900 from Hiram College, his A.M. in 1907 from Bethany College and his medical degree from Rush Medical College in 1904. From 1905 to 1917 he did hospital work in China with the United Christian Mission Board. In 1917-18 he was in this country as a Fellow of the Rockefeller Foundation and studied at Harvard, doing also work with Dr. Place at the South Department and at our State Sanatorium at Westfield under Dr. Chadwick. From 1918 to 1927 he was in charge of student health in the Central China University at Wuchang under the American Episcopal Board. In 1923-24 he was in this country surveying student health activities in colleges and universities in the eastern and central parts of the United States. Through his long experience with student health he has developed the public health point of view and after many months of fruitless search for a competent successor to Dr. Sullivan we feel very fortunate in obtaining the services of a man of his calibre, because, after all, this extensive program which is being watched by the entire country as the most ambitious attack against tuberculosis ever staged by an official agency, can be no better than the quality of the work given in the clinics under Dr. Wakefield's direct supervision.

Yours truly,

GEORGE H. BIGELOW, M.D.,
Commissioner of Public Health.

ARTICLES ACCEPTED BY THE A. M. A. COUNCIL ON PHARMACY AND CHEMISTRY

Dear Doctor:

In addition to the articles enumerated in our letter of January 28th, the following have been accepted:

Hollister-Stier Laboratories

Alder Pollén Extract-Hollister-Stier; Aspen Pollen Extract-Hollister-Stier; Atriplex Pollen Extract-Hollister-Stier; Awnless Brome Grass Pollen Extract-Hollister-Stier; Blue Bunch Grass Pollen Extract-Hollister-Stier; Box Elder Pollen Extract-Hollister-Stier; Canada Blue Grass Pollen Extract-Hollister-Stier; Cheat Pollen Extract-Hollister-Stier; Common Sagebrush Pol-

len Extract-Hollister Stier; Crested Koeleria Pollen Extract-Hollister-Stier; Dandelion Pollen Extract-Hollister-Stier; Eastern Ragweed Pollen Extract-Hollister-Stier; English Plantain Pollen Extract-Hollister-Stier; Giant Poverty Weed Pollen Extract-Hollister-Stier; Kentucky Blue Grass Pollen Extract-Hollister-Stier; Lamb's Quarters Pollen Extract-Hollister-Stier; Mugwort Pollen Extract-Hollister-Stier; Orchard Grass Pollen Extract-Hollister-Stier; Perennial Rye Grass Pollen Extract-Hollister-Stier; Quack Grass Pollen Extract-Hollister-Stier; Red Top Pollen Extract-Hollister-Stier; Redroot Pigweed Pollen Extract-Hollister-Stier; Russian Thistle Pollen Extract-Hollister-Stier; Sandberg's June Grass Pollen Extract-Hollister-Stier; Sheep Sorrel Pollen Extract-Hollister-Stier; Spring Birch Pollen Extract-Hollister-Stier; Timothy Pollen Extract-Hollister-Stier; Velvet Grass Pollen Extract-Hollister-Stier; Western Ragweed Pollen Extract-Hollister-Stier; Willow Pollen Extract-Hollister-Stier.

Maltbie Chemical Co.

Compound Syrup of Calcreose.

Yours truly,

W. A. PUCKNER, *Secretary.*

NEWS ITEMS

HARVARD MEDICAL SCHOOL—Professor George Barger, M.A., D.Sc., F.R.S., Professor of Chemistry, University of Edinborough, will speak at 5 P. M., Friday, March 9, 1928, in Amphitheatre C, Harvard Medical School, on "Thyroxin and the Thyroid Gland."

APPOINTMENT—Dr. W. G. Watt has been appointed Assistant Dermatologist to the Holyoke Hospital. He also announces the removal of his office from 340 Main Street to 131 Chestnut Street, Holyoke.

$128,000 GIFT TO FOUND A CHAIR OF PATHOLOGY—The Alumni of the College of Physicians and Surgeons of Columbia University have given $128,000 to the University to found a professorship in pathology in the Medical School.

The money will be held in trust until it reaches the sum of $200,000. The professorship will be known as the Francis Delafield Professorship in honor of the founder of the Pathology Laboratory in the College of Physicians and Surgeons.

NERVES IN CANCERS—The discovery of nerves in cancers has been announced according to a contribution in the *Canadian Medical Association Journal* by Dr. Horst Oertel.

Dr. Oertel is Professor of Pathology and Director of the McGill Pathological Institute.

Although it is claimed that this alleged demonstration will be a forward step in the knowledge of cancer there is a definite skepticism on the part of some that this discovery even if confirmed may lead to any change in the treatment of malignant growths.

Two technicians in the Pathological Institute, John Partridge and Brian Thomlinson, have contributed zeal and devotion to the alleged demonstration.

IGNORANCE SPREADS VACCINATION RUMORS—A rumor recently became current in Middletown to the effect that a certain woman had such a violent reaction from vaccination that she had gone to the hospital and expected to have her arm amputated. When friends of this woman heard the rumor and called up members of her family to ascertain the facts in the case, they were told that the woman had no trouble with her vaccination and that her vaccination was almost healed, but she had gone to the hospital for another condition from which she had suffered for a long time and that was not affected in any way by vaccination. Thus another rumor concerning the ill effects of vaccination was found to have been spread through ignorance.—*Connecticut State Department of Health.*

CANCER STILL AN UNSOLVED PROBLEM—Last year in Connecticut there were 1,683 deaths from cancer, with a death rate of 106.1; in 1926 the death rate was 106.7; in 1925, 107.2. The death rates during the last 20 years show that cancer, unlike other diseases for which control measures are in practice, have risen steadily. This is shown in five-year periods given below:

1920	99.8*	1910	80.2	1900	66.9
1915	90.5	1905	75.5	1925	107.2

*Per 100,000 population.

According to statisticians 103,000 people die of cancer in the United States each year. At this rate cancer takes a higher toll than all the infectious diseases except tuberculosis.—*Connecticut State Department of Health.*

NEWS ITEMS RELATING TO TUBERCULOSIS ACTIVITIES

NEWTON PUBLIC HEALTH COMMITTEE CONSIDERS ITS PROGRAM

The Public Health Committee of the Newton Welfare Bureau met on February 15th with Dr. Sumner H. Remick, Director of the Division of Tuberculosis, State Department of Public Health, and Frank Kiernan, Executive Secretary of the Massachusetts Tuberculosis League, to consider a program of work for the year 1928-1929.

Mr. Arthur Kendrick of the Board of Health of Newton is Chairman of the Committee. Dr. Francis G. Curtis, Health Officer of Newton, and Miss Mabel Bragg, Assistant Superintendent of Schools, are members of the Committee.

The Christmas Seal Sale of 1927 was the most successful one ever held in Newton and the Committee considered various suggested plans for tuberculosis prevention work in Newton during the coming year.

CAMBRIDGE ANTI-TUBERCULOSIS ASSOCIATION REVIEWS ITS WORK

A special meeting of the Board of Managers of the Cambridge Anti-Tuberculosis Association, of which Mrs. Mabel Greeley Smith is Executive Secretary, was held on March 16th at the Association's headquarters, Central Square, Cambridge.

Dr. Henry D. Chadwick, Superintendent of Westfield State Sanatorium, Dr. Sumner H. Remick, Director, Division of Tuberculosis, State Department of Health, and Frank Kiernan, Executive Secretary of the Massachusetts Tuberculosis League, were invited guests to confer with the Managers on the Association's program of tuberculosis prevention with children.

Dr. Hilbert F. Day, President of the Association, was in the chair. Fifteen members of the Board of Managers were present. Plans were discussed for further coöperation with the Cambridge Board of Health in connection with the follow-up of children examined in the State's Ten-Year Clinics.

The Managers voted to continue in 1928 the summer health camp work of the Association.

It was also agreed that the policy of the Association in sending children to Sharon Sanatorium should be continued.

Drs. Remick and Chadwick spoke on the progress of the State Ten-Year Program for children.

Dr. Merrill E. Champion told of the Child Hygiene Program of the State Department and its relation to other child health work.

NOTICE

CERTAIN APPOINTMENTS IN CONNECTION WITH THE UNITED STATES PUBLIC HEALTH SERVICE

Associate Sanitary Engineer Leonard Greenburg. Directed to proceed from New Haven, Conn., to Washington, D. C., and return, in connection with the ventilation studies being conducted by the Office of Industrial Hygiene and Sanitation. February 2, 1928.

Consultant Frank I. Cooper. Directed to proceed from Boston, Mass., to Washington, D. C., and return, on February 10, 1928, to advise with the Surgeon General regarding ventilation problems being conducted by the Office of Industrial Hygiene and Sanitation. February 2, 1928.

Prof. C.-E. A. Winslow. Directed to proceed from New Haven, Conn., to Washington, D. C., and return, on February 10, 1928, to advise with the Surgeon General regarding ventilation studies being conducted by the Office of Industrial Hygiene and Sanitation. February 2, 1928.

Surgeon J. P. Leake. Directed to proceed from Washington, D. C., to Boston, Mass., and return, for the purpose of conferring with State health officials regarding control of biologic products. February 4, 1928.

REPORTS AND NOTICES OF MEETINGS

HARVARD MEDICAL SOCIETY

The Harvard Medical Society held a meeting on February 14, 1928, at 8:15 o'clock in the Peter Bent Brigham Hospital. After the presentation of two cases, Dr. H. A. Christian introduced the two speakers of the evening, Drs. E. S. Emery, Jr. and R. T. Monroe, who presented a paper on "Some Observations on 556 cases of peptic ulcer."

The first case was from the medical service of the hospital and presented by Dr. Fitzhugh. The patient was 67 years old, single, American-born, a hostler who came into the hospital complaining of weakness. About a month before his admission he became so weak that he was obliged to go to bed and had not been up since. He had had three days of slight abdominal pain without relation to meals. With a red count of 2,500,000 he was sent in with a diagnosis of primary anemia by the local doctor. However, most primary anemias with a red count of that number show no such marked weakness. A gastric analysis demonstrated 60 points of free H Cl in the gastric contents, and with this and a tarry stool as shown by a positive guaiac test, and a slight filling defect on the lesser curvature of the stomach by X-ray, the Sippy management was begun. The red count went up to 3,500,000, the yellow skin tint disappeared, and the cerebral derangement improved. No liver was fed.

The second case was presented by Dr. Gundersen. The patient was a married laborer of 58, who came into the hospital on January 21, complaining of nausea, epigastric pain, and vomiting of four months' duration. His marital and family history were essentially negative. His past history included not only the symptoms on entering, but much trouble with his teeth and pharynx. Physical examination showed slight cardiac enlargement with a systolic murmur, very bad teeth and tonsils, marked arcus senilis, and slight tenderness in the epigastrium. He had lost 25 pounds during the present illness. Gastric analysis showed a definite increase in acidity and X-ray showed a peristent irregularity of the distal end of the stomach. In view of the fact that he had a 50% residue at the end of six hours and was not doing well on medical management, he was transferred to the surgical service. After opening the abdomen through an upper right rectus incision, many adhesions were found between the stomach, gall-bladder, liver and duodenum which were freed. Ulcers were found along the lesser curvature of the stomach and in the first part of the duodenum. Gastric resection with gastro-jejunostomy was performed; in order to prevent stasis in the proximal loop of the jejunum an entero-enterostomy was also done. During the uneventful recovery, the patient has been absolutely symptom-free and is to be discharged soon.

Dr. Monroe first presented the actual findings in the research. All the ulcer cases of the Peter Bent Brigham Hospital from its opening in 1913 up to 1926 were included in the report. Of the 556 cases thus collected 400 were men and 156 were women. The cases had a history of an average duration of seven years, 34% had hemorrhage, 7% perforation, and 7% died. The general results with treatment were 37.8% good and improved and 40.6% unimproved. With medical treatment alone 51.3% were improved, 48.7% unimproved; with surgical treatment alone 59.6% were improved and 40.4% unimproved; on the whole surgery gave better results. The reasons for failure after either treatment were the existence of pain, hemorrhage, obstructions, jejunal ulcer, fistulae, or dissatisfaction on the part of the patient. About half of the medical or surgical patients resorted to the other kind of treatment after the failure of the previous one. On the medical side the Sippy diet when rigidly adhered to for at least a year gave the best results. On the surgical side excision of the ulcer did the least good and gastro-enterostomy with plication accomplished the most.

Dr. Emery presented conclusions based on the figures which he indicated are obviously low. This is due, first, because the standard of classification was practically made by the patients themselves in the replies to the followup letters, and second, because the cases were followed over a longer period of time than is usually the custom in making such statistics, thus checking up on more relapses. Dr. Emery emphasized the importance of a standard for the publishing of results which on less than a five-year followup are of no value. In the followups it is hard to differentiate the recrudescence of an old ulcer from the development of a new one, despite the fact that the ulcer usually returns in the same place. Some cases seem to show an alternate healing and relapse of the same ulcers. The use of the X-ray in the diagnosis of ulcer is becoming increasingly valuable. 36% of the 556 cases were diagnosed as against a negative X-ray, while 93% of the cases which showed ulcer by X-ray actually had it. As regards treatment the figures seem to show that we are not using the most efficient, because 49% of the untreated cases became better, while medicine only helped 43% of its quota, and surgery only 40%. The conclusions to be drawn are obvious: first, gastric and duodenal ulcers are caused by some etiologic pathological conditions; second, ulcer is a chronic disease and should be treated over a long period like nephritis, diabetes, etc.; third, fewer claims should be made for ulcer treatment as it is now.

In the interesting discussion following the presentation of the paper, Dr. Emery brought out the points that the occurrence of ulcer had no apparent relation to age; that better results were obtained with ulcers of short duration; that the incidence of ulcer in the Peter Bent Brigham Hospital is 1.86% of all patients; that more patients are applying for surgical treatment rather than to medicine for relief.

MASSACHUSETTS TUBERCULOSIS LEAGUE

Three hundred physicians, nurses, teachers, and social workers were in attendance at the mid-winter meetings of the Massachusetts Tuberculosis League held at Hotel Statler on Monday and Tuesday, February 6th and 7th.

On Monday morning a Christmas Seal Sale Meeting of the volunteer and professional workers of the League's affiliated organizations was held. Representatives were present from the counties of Barnstable, Berkshire, Bristol, Essex, Franklin, Hampden, Hampshire, Nantucket, Dukes, Norfolk, Northern Worcester, Plymouth, Southern Middlesex, Southern Worcester, and from the city associations in Boston, Cambridge, Chelsea, Haverhill, Holyoke, Lawrence, Lowell, Malden, New Bedford, Newburyport, Newton, and Salem. Frank Kiernan, Executive Secretary of the League, presided. Discussion was had of the experience of the associations in the 1927 Seal Sale and plans were laid for improving the technique of the Seal Sale of 1928. Dr. Robert B. Kerr, Executive Secretary of the New Hampshire Tuberculosis Association, Miss Mabel Baird, Field Secretary of the Connecticut State Tuberculosis Commission, Miss Elsie F. Packer of the Hartford Tuberculosis Society, and Willis Chandler, Executive Secretary of the Rhode Island State Tuberculosis Association, were also present and participated in the discussion. Last minute reports on the 1927 Seal Sale returns from the affiliated organizations of the League indicated that the total will be approximately $252,000 which will exceed the Seal Sale of the previous year by $12,000. Dr. John A. Smith of the National Tuberculosis Association, who was present at the meeting, congratulated the League and its constituent bodies on this successful result.

Following the morning meeting the semi-annual luncheon conference of the Directors, Executive Committee, and guests of the League was held. Dr. Kendall Emerson, President, presided.

In opening the meeting Dr. Emerson stated that each year the League endeavors to emphasize an important feature of tuberculosis work. The feature for 1928 will be participation in the Early Diagnosis Campaign which has been announced by the National Tuberculosis Association for the month of March.

Dr. Harry E. Kleinschmidt, Supervisor of Medical Service of the National Tuberculosis Association, spoke on "Why An Early Diagnosis Campaign?"

"There are at least 10,000 cases in Massachusetts' communities", said Dr. Kleinschmidt, "unknown to either the doctors or the tuberculosis carriers themselves. An investigation of patients in a group of representative sanatoria in the United States recently disclosed the fact that of the patients in these institutions only 16% had been diagnosed as early stage cases. In other words, 84% of those entering the sanatoria were classified as advanced cases for whom not very strong reassurance of recovery could be entertained."

He added, "This is so in spite of the fact that for twenty years the medical profession, the National Tuberculosis Association and its subordinate branches in States and cities and towns have been, so to speak, shouting from the house tops the necessity of earlier diagnosis."

"It therefore seemed to the National Association", continued Dr. Kleinschmidt, "that something unusual should be attempted to focus the attention of the public on this very fundamental need in tuberculosis work. It is planned, therefore, in the month of March to inaugurate a campaign which will utilize every known medium of publicity for carrying the message of earlier diagnosis to the public at large. The dominant note of the campaign will be 'You May Have Tuberculosis—Let Your Doctor Decide'. The attention of the medical profession will be again drawn to the need of better technique of diagnosis. Motion pictures films of a technical and a popular character will be circulated to re-awaken the interest of the medical profession and the laity in the subject. Organized groups everywhere, both those especially engaged in health work and those engaged in welfare work of a general character, will be reached.

The radio, billboard posters, the columns of the press, the men's and women's service clubs, the nurses professional associations, church groups, racial groups, educational institutions, and other agencies will be made the media of carrying the message to their members and to the families of the members in an attempt to reach every person with the need of vigilance where early diagnosis of the disease should be looked for.

The decline in tuberculosis while it has been marked in the past twenty years is still considerably less than it ought to have been and there remains the most important part of the tuberculosis task to be completed, namely, the reduction of the morbidity and mortality from the disease to the irreducible minimum."

Dr. John B. Hawes, 2nd, President of the Boston Tuberculosis Association, was the other speaker at the luncheon. He stressed the need of tuberculosis associations carrying home to the public at large the seriousness of being keen about the symptoms of tuberculosis when they appear. His address was on the subject of "Suspecting Tuberculosis," which he said was a phrase which he borrowed from the recent book of Dr. John Potts on "Getting Well and Staying Well".

His address bristled with important suggestions and a dramatic appeal for better work in the medical schools for he was convinced that other subjects engage the attention of profession and others to the exclusion of adequate concentration on tuberculosis.

The address was delivered in a way to impress the audience and will, we hope, impress the doctors to more careful search for the facts which will bring cases of tuberculosis under treatment at a time when better results may be secured.

Dr. Tsefang Huang, Director of Department of Epidemiology of Union Medical College, Peking, China, spoke on the need of a similar campaign among the people of his country. He expressed the hope that the people in America would think of China in terms of public health progress which is being made there rather than in terms of their upset political condition.

Dr. Kroum Dokoff, Medical Officer of the Department of Labor in the Province of Varna, Bulgaria, who is a Rockefeller student at the Harvard School of Public Health, expressed his admiration of the intensive character of the tuberculosis campaign as carried on in the United States. He said that the recent war had left a dreadful aftermath of tuberculosis among his people and that in this country he was learning the methods which had been successfully used here in the anti-tuberculosis campaign and which he hoped to adapt to the needs of Bulgaria upon his return.

Following the addresses, a film of the National Tuberculosis Association for medical audiences entitled "The Doctor Decides" was shown.

Following the luncheon conference, a meeting of the Board of Directors and the Executive Committee of the League was held. Rev. C. P. Wellman of Deerfield, President of the Franklin County Public Health Association, was elected to the Executive Committee to succeed Mr. Sydney W. Ashe of Pittsfield.

Dr. Francis P. Denny, Chairman of the Budget Committee of the League, presented the budget for 1928 which was adopted.

The Seal Sale contract between the National Association and the State League and similar contract between the League and its affiliated organizations were approved.

Dr. Emerson announced plans for the Annual Meeting of the League to be held at Hotel Kimball, Springfield, on Monday, April 30th.

The Executive Secretary reported that the State Department of Public Health and the League will shortly issue a pamphlet on "Home Treatment of Tuberculosis".

The proposed constitution of the Massachusetts Central Health Council, of which the League is a member, was ratified.

While the Board of Directors' meeting was in progress, in an adjacent room a meeting of the staffs of the affiliated organizations of the League and the staffs of the Division of Child Hygiene and Tuberculosis of the State Department of Public Health was in session. The object of the meeting was to discuss problems of mutual interest and to have the staff members of the three groups meet each other personally. Frank Kiernan, Executive Secretary of the League, presided.

Dr. M. E. Champion of the Division of Hygiene of the State department of Health, Dr. Sumner H. Remick of the Division of Tuberculosis, Miss Margaret Ayer, a District Nurse of the Department, Dr. George P. Hunt of Pittsfield, President of the Berkshire County Tuberculosis Association, Miss Florence Bragdon, R.N., Executive Secretary of the Northern Worcester County Health Association, were the speakers. Dr. George H. Bigelow, State Commissioner of Public Health, gave a comprehensive summary of the matters brought out by the other speakers.

On Tuesday morning a Health Education Meeting was held under the leadership of Miss Anna W. Johnson, Educational Secretary of the League. The subject was "The Place of Health Education in the School Curriculum".

The several speakers who discussed this subject from their standpoint as school and health officials were as follows: Mr. Frank A. Morris, Superintendent of School of Stoughton; Mr. Richard Schmoyer, Director of Physical Education of Lynn; Miss Elizabeth Sampson, Principal of Hedge School in Plymouth; Miss Mary F. McDermott, Director of Physical Education and Hygiene, State Normal School, Fitchburg; Miss Julietta Delahanty, Teacher in the Wm. Greene School of Fall River; Miss Margaret Burke, Director, Physical Education, Somerville; Miss Edith Haines, R.N., School Nurse in Dracut, and Mrs. Edythe James, School Nurse in Leominster.

A special feature of the morning session was the appearance of Mr. E. E. Clive, Director of the Copley Theatre, Boston, who spoke on the "Drama as a Medium for Health Education". Mr. Clive annually gives the use of his theatre for the production of the successful plays of the Health Playwriting Contest.

BOSTON MEDICAL HISTORY CLUB

A regular meeting of the Boston Medical History Club was held at the Boston Medical Library, February 24th, 1928.

Dr. Hyman Morrison read a paper on "The Early Jewish Physicians in America." He pointed out that many Jewish physicians came to this country from Spain and Portugal in the early days. It seems reasonably certain that the physician with Columbus in his voyage of discovery was a Jew. Most of the early Jewish physicians settled in the southern States, especially in Georgia, where they took a prominent part in the founding of medical societies and in philanthropic work in general. After the Revolution of 1845 many Jewish physicians came to this country from Central Europe, especially from Germany, Poland and Russia. Some have been outstanding physicians in their communities. Dr. Morrison presented the important works of the best-known Jewish physicians and showed many photographs of them. He also spoke briefly on some of the later Jewish physicians, men of great importance to medicine in America in the last seventy-five years.

Dr. Morrison's paper was discussed by Drs. Coues, Gregg and Fulton.

Mr. James Ballard then briefly described two early anatomical "fugitive sheets" which he discovered in the back of a copy of the German edition of the Epitome of Vesalius in the Boston Medical Library. These two anatomical figures, carefully colored and containing many superimposed parts, are in an excellent state of preservation and form two of the rarest "fugitive sheets" in this country and perhaps in the world.

MASSACHUSETTS PSYCHIATRIC SOCIETY

A meeting of the Massachusetts Psychiatric Society was held at the Boston Psychopathic Hospital on Friday, February 17, 1928. Dr. Frankwood E. Williams, Medical Director of the National Committee for Mental Hygiene, New York City, spoke on the subject "The Future Equipment of Personnel in the Field of Mental Hygiene".

In defining the field of mental hygiene, Dr. Williams said, in substance, that one must approach the subject from two directions. The first real advance was when the workers began to study people and gave up the attempt to make complicated laws. In the attempt to prevent mental diseases, both organic and functional, they found themselves confronted by the problem of the emotional child. The other approach is found in the fields of psychiatry: this necessitated more accurate classification of mental diseases by the employment of scientific study and instruments of precision; second, the search for causes of mental diseases conducted by men trained especially for this work; third, a study of the individual. Dr. Williams emphasized the fact that the problem lies in the field of human relations with the appreciation of the maladjustments in the life of the child, the adolescent and the adult. Not only should we try to adjust the patient to his environment, but also to change the environment as far as possible to suit the needs of the patient. It is a long complicated study, the point of attack being the patient together with influences with which he is surrounded.

The treatment of psychoses and neuroses involves dealing with both functional and organic conditions. It is clear that the psychic maladjustments are primary, but where the physical defect begins it is hard to determine. In the field of mental hygiene psychoses and neuroses are to be definitely studied even to the minor deviations referred to as tantrums. Three different types of investigators are engaged in this study consisting of the psychiatrist-social worker whose training has been brief and not especially comprehensive, the psychologist who has profound but narrow foundation in his training with only 20% of his study applicable and finally, there is the medical psychiatrist whose training has been too extensive and not enough in one field. At the present time the medical psychiatrist is best adapted to the work.

Much energy is lost when different agencies are at work, and Dr. Williams proposed an ideal training for workers in the field of mental hygiene. This training must first be biological. All clinical medicine not directly bearing on the subject must be eliminated. Finally a study of psychology and social work must be carried on. Generally speaking, the training should include only what is necessary and applicable and yet adequate. The result would

be the selection of not an M.D., a psychologist, or a psychiatrist, but an individual having qualifications which will insure better mental hygiene work. Combine this with common sense and the result is ideal.

THE CUTTER LECTURE

The Lecture on Preventive Medicine was given on the afternoons of February 2 and 3, 1928, at the Harvard Medical School by Dr. W. H. Frost of Johns Hopkins University. On Thursday Dr. Frost discussed the infection, immunity, and disease in the epidemiology of diphtheria, with special reference to some studies in Baltimore. In his second talk he brought out some conceptions of epidemics in general.

Infection with disease, said Dr. Frost, implies two things: inoculation and susceptibility. It has been shown however, that there may be inoculation without susceptibility. This concealed infection is important and because in diphtheria it is possible to diagnose these carriers, this fact makes the study of diphtheria one of basic principles which perhaps underlie all epidemics. The Schick test is perhaps the best indicator available. A negative Schick is evidence of immunity against the disease and not to infection; it is probably due to a previous slight infection. A positive Schick does not necessarily mean high susceptibility.

A recent study in Baltimore extending over three years and including 9,000 children under the age of 15, gave the following results: Infants up to one year are all Schick negative. Then they all become Schick positive. As the age increases, the number of Schick negatives obtained also increases. Since only 9-12% of the group had had clinical diphtheria, this cannot be assigned as the cause for the increasing immunity. The negro population had the same ratio of Schick negatives, but a smaller incidence of the clinical disease. Since the same condition exists in South America, one must assume a racial difference. In comparing the number of virulent carriers to the clinical incidence of the disease, in children from the ages of 5-14, the average is 47 to one.

These studies may be important in giving us some ideas about the epidemiology of such diseases as poliomyelitis and encephalitis lethargica.

The studies of epidemics in general are carried out in two ways: a study of statistics, and experimental studies with laboratory animals. These have tended to accentuate the ideas of post-susceptibility, dosage, and variations of microbial populations, and have also given some ideas about the factors of resistance and the nature of the bacteria.

Brownley of England has formulated a law of epidemics in which he states that the rise of epidemics is due to a rise and decline in the infecting properties of the microörganism. Dr. Frost showed that this law is not broad enough. The three most important variables in epidemics are first, the microbial population which may vary in number and specific properties such as infectivity and pathogenicity; second, the host population which may vary in susceptibility or in numbers; and third, the environment to effect inoculation may vary. These are so interwoven that no single cause can be assigned to an epidemic. Epidemics may be initiated by increased rate of transfer, increased contact as in schools, and increased staying indoors in the colder months. Though the initial impulse be small, due to the arithmetical progression of the incidence of the disease, the result may be very great.

A study of great historical epidemics shows that epidemics are not due to abnormal conditions such as would obtain in an army; nor are they due to a general lowering of resistance. The probable cause is a change in the virulence of the specific organism.

In a consideration of all these variables, Dr. Frost concluded that in our present state of knowledge we cannot assign a general law which governs all epidemics.

TRUDEAU SOCIETY OF BOSTON

The next meeting of the Trudeau Society of Boston will be held on Wednesday evening, March 21, 1928, at 8:15 p. m., in John Ware Hall, Boston Medical Library, 8 The Fenway, Boston.

The speaker will be Dr. Edward W. Archibald of Montreal; subject: "Selection of Patients for Surgical Treatment in Pulmonary Tuberculosis." Dr. Wyman Whittemore and Dr. Edward D. Churchill have been asked to lead in the discussion.

Physicians, medical students and nurses are cordially invited to attend this meeting.

RANDALL CLIFFORD, *Secretary.*

HARVARD MEDICAL SOCIETY

The next regular meeting of the Harvard Medical Society will be held as usual in the amphitheatre of the Peter Bent Brigham Hospital, Tuesday evening, March 13th, at 8:15 P. M. The program follows:

Presentation of cases.

The Harvard African Expedition of 1927 with reference to Biology and Medicine. Dr. Richard P. Strong.

PERCIVAL BAILEY, *Secretary.*

SOCIETY MEETINGS

March 8—Massachusetts General Hospital Staff Clinical Meeting. Complete notice appears on page 114, issue of March 1.

March 13, April 10—Massachusetts Dietetic Association. For complete notice see page 1535, issue of February 9.

March 13—Harvard Medical Society. Detailed notice appears above.

March 21—Trudeau Society. Complete notice appears elsewhere on this page.

June 18-22—Convention of the Catholic Hospital Association. Complete notice appears on page 1597, issue of February 16.

DISTRICT MEDICAL SOCIETIES

Essex North District Medical Society

May 2, 1928 (Wednesday)—Annual meeting at Haverhill, 12:30 P. M., at the Haverhill Country Club, Brickett Hill, Gile Street, Haverhill.

May 3, 1928 (Thursday)—Censors meet for examination of candidates at Hotel Bartlett, 95 Main Street, Haverhill, at 2 P. M. Candidates should apply to the Secretary, J. Forrest Burnham, M.D., 567 Haverhill Street, Lawrence, at least one week prior.

Essex South District Medical Society

April 11 (Wednesday)—Essex Sanatorium, Middleton. Clinic at 5 P. M. Dinner at 7 P. M.

Dr. Raymond S. Titus, "Obstetrical Emergencies." Discussion by Drs. J. J. Egan of Gloucester and A. T. Hawes of Lynn, 10 minutes each, and from the floor.

May 3 (Thursday)—Censors meet at Salem Hospital for the examination of candidates at 3:30 P. M. Candidates should apply to the Secretary, Dr. R. E. Stone, Beverly, at least one week prior.

May 8 (Tuesday)—Annual meeting. Detailed notice appears on page 1437, issue of January 26.

Norfolk District Medical Society

March 27—Meeting at the Norwood Hospital. Presentation of paper or cases from members of the District.

May 3—Censors' meeting. Roxbury Masonic Temple, 4 P. M. Applications will be mailed by the Secretary upon request.

May 8—Annual meeting. Details to be announced.

Suffolk District Medical Society

Combined meetings of the Suffolk District Medical Society and the Boston Medical Library will be held at the Boston Medical Library, 8 The Fenway, at 8:15 P. M., as follows:

March 28—Medical Section. "The Use and Misuse of Vaccines." Dr. Hans Zinsser, Dr. Francis M. Rackemann, Dr. Charles H. Lawrence.

April 25—Annual meeting. Election of officers. Paper of the evening to be announced later.

The medical profession is cordially invited to attend these meetings.

Notices of meetings must reach the JOURNAL office on the Friday preceding the date of issue in which they are to appear.

BOOK REVIEWS

Diseases of the Skin. By HENRY H. HAZEN. C. V. Mosby Company, St. Louis, 1927. 572 pages. Third Edition.

Since the first edition of Hazen's book in 1915 it has been one of the standard smaller books on dermatology. The present edition has been enlarged and thoroughly brought up to date, with due emphasis on the newer laboratory methods and the rational use of physiotherapeutic measures. This book has the unique distinction of not having a chapter on eczema save for a short account of infantile eczema. Cases ordinarily classified in this group are considered under dermatitis venenata, anaphylactic dermatoses and dermatophytons. The chapters on syphilis and cancer are especially valuable and are indicative of the close study which the author has given these two diseases. The book is very well arranged and is noteworthy for the many very excellent photographs of both common and unusual conditions.

Epidemic Influenza. A Survey. EDWIN O. JORDAN, PH.D., SC.D.

At the invitation of the Committee on Scientific Research of the American Medical Association, Professor Edwin O. Jordan surveyed the literature of the influenza epidemic of 1918. Such topics are discussed as: the relation of the 1918 influenza epidemic to the influenza of preceding years; the nature and course of the epidemic; the attack rate as it affected age, sex, race, occupation, and geographical location; the relationship between influenza, tuberculosis, and epidemic encephalitis; the bacteriology and pathology; the modes of transmission; the preventive measures; and the analysis of the epidemiological data.

In addition to reflecting Dr. Jordan's personal experience with the disease, the book comprises a digest of over 1200 articles. After weighing the pros and cons of various controversial topics, such conclusions as he draws are upon sound evidence. Among these the most noteworthy are as follows: influenza is found to be independent of weather, climate, or season; it is probably transmitted by discharges from the nose and mouth; crowding is an important factor in its spread; perfect isolation of an individual or group during an influenza epidemic constitutes a complete protection against the disease. The epidemics of 1918, 1920, and 1926 may be considered, so far as cause is concerned, as identical with the one of 1890, but it is hardly justifiable to identify as influenza all the sporadic cases and localized epidemics of inter-epidemic years.

Dr. Jordan concludes with the following: "On the whole, the hypothesis of the coexistence of different strains of influenza virus has much in its favor. Each strain probably breeds more or less true, but each is also capable of more or less gradual transformation, the more virulent into less virulent strains perhaps because of growth in bodies of partially immunized persons, the less virulent into highly invasive strains because of modification by unknown causes. In common with most infectious diseases, the degradation of the influenza virus takes place fairly readily following perhaps the accumulation (even temporarily) of immunes. The successive waves and recurrences seem to indicate, however, that some exaltation of the virus may also occur with considerable facility and frequency, particularly after the original pandemic strain has been widely disseminated. As time goes on the appearance of strains with a high grade of diffusive power becomes more rare, and after a lapse of years it is only occasionally that a typical pandemic strain comes into existence. The ebb and flow of certain other infectious diseases, notably diphtheria and scarlet fever, suggest a somewhat similar explanation. It seems to me at least a plausible hypothesis that the coming into existence of a peculiar strain of influenza virus different from the strains of epidemic influenza is the cause of the pandemic manifestations."

Every Woman A Nurse. By EDITH NEWSOME, S.R.N.

This interesting and instructive handbook was published by the Oxford University Press in 1927. It is intended for the use of nursing societies, technical school classes, Red Cross and ambulance associations, etc., and in the home, being a revision of Miss Newsome's book "Home Nursing" published in 1916, with additional chapters on: Hygiene; Some Children's Ailments; Simple Remedies; and First Aid.

Miss Newsome devotes chapters to the following subjects: The Qualifications and Duties of the Nurse; Care of the Patient (On Admission, During Illness and After Death); Temperature of the Body; Respiration; Inflammation (Its Causes, Signs and Treatment); Infection; Enemata, Bedsores and Fractures; Operations; and Diets and Feeding. There are also chapters on bandages, one describing the types and another entirely devoted to illustrations (thirty-one in number).

The author's treatment of the subjects under consideration is so thorough and simple that the lay person, finding himself called upon to assist in caring for the sick, is easily able to understand the methods recommended for procedure. The book is recommended for the use of lay persons interested in home nursing.

Diseases of the Skin. By ROBERT W. MACKENNA. The Williams & Wilkins Company, Baltimore, Md., 452 pages.

This second edition has been considerably revised and enlarged. It is essentially a practical textbook for students and general practitioners. There is a comparatively small amount of space devoted to elementary matters such as anatomy, physiology, general diagnosis and treatment, etc. The arrangement of the various skin diseases is based on etiological factors instead of the usual arrangement in this country. The terminology and the treatment vary somewhat from American practice but are based on sound principles. There are many excellent photographs and the colored illustrations are among the best in any dermatological textbook. In the matter of treatment, the more common methods are discussed, but the book does not pretend to be a compendium of possible therapeutic measures. On the whole it can be recommended as an up-to-date textbook of dermatology, with the emphasis naturally enough on the opinions of our English colleagues.

BOOKS RECEIVED FOR REVIEW

Diagnosis and Treatment in Diseases of the Lungs, by Tylecote and Fletcher. Published by the Oxford University Press. 270 pages. Price $2.25.

Clinical Researches in Acute Abdominal Disease, by Zachary Cope. Published by the Oxford University Press. 207 pages. Price $3.50.

Baby's Health Day by Day. Published by The Professional Press, Inc.

Physical Diagnosis, by Charles P. Emerson. Published by J. B. Lippincott Co. 553 pages.